

**1.a. Country (and State Party if different)**

Islamic Republic of Iran



Fig. 1-1. Iran

1.b. State, province, or region

Nomination dossier includes nominated sites from 6 provinces as follows:

Fars- Isfahan- Mazandaran- Kerman-Yazd and Southern Khorasan which are showed.



Fig. 1-2. Location of the provinces

1.c. Name of Property

The Persian Garden



- International boundaries
- World Heritage Sites in Iran
- Nominated Gardens
- ★ National capital
- Province capital
- Railways
- Expressway
- Road

Fig.1-3. Location of the nominated Persian Gardens

**1.d. Geographical coordinates to the nearest second**

<b>No.</b>	<b>Name of the Nominated Gardens</b>	<b>Province/ City</b>	<b>Geographical Coordinates</b>	<b>Map ref.</b>
1	<i>Ancient garden of Pasargadae</i>	Fars/Shiraz	N: 30° 10' 0.0'' E: 53° 10' 0.0''	<b>A-I</b>
2	<i>Bagh-e Eram</i>	Fars/Shiraz	N: 29° 38' 10.03'' E: 52° 31' 31''	<b>A-II</b>
3	<i>Bagh-e Chehel Sotun</i>	Isfahan/Isfahan	N: 32° 39' 27'' E: 51° 40' 20''	<b>A-III</b>
4	<i>Bagh-e Fin</i>	Isfahan/ Kashan	N: 33° 22' 20.53'' E: 51° 22' 20.53''	<b>A-IV</b>
5	<i>Bagh-e Abas Abad</i>	Mazandaran/ Behshahr	N: 36° 39' 50'' E: 53° 35' 38''	<b>A-V</b>
6	<i>Bagh-e Shahzadeh</i>	Kerman/ Mahan	N: 30° 01' 30'' E: 57° 16' 59''	<b>A-VI</b>
7	<i>Bagh-e Dolat Abad</i>	Yazd/Yazd	N: 31° 54' 12.30'' E: 54° 21' 6.59''	<b>A-VII</b>
8	<i>Bagh-e Pahlavanpur</i>	Yazd/ Mehriz	N: 31° 33' 36.6'' E: 54° 26' 25.21''	<b>A-VIII</b>
9	<i>Bagh-e Akbariyeh</i>	Southern Khorasan/ Birjand	N: 32° D1' 10'' E: 59° 13' 40''	<b>A-IX</b>

**Nominated Persian Gardens:**



Fig .1-4. *Ancient Garden of Pasargadae*



Fig .1-5. *Bagh-e Eram*



Fig .1-6. *Bagh-e Chehel Sotun*



Fig .1-7. *Bagh-e Fin*



Fig .1-8. *Bagh-e Abas Abad*



Fig .1-9. *Bagh-e Shahzadeh*



Fig .1-10. *Bagh-e Dolat Abad*



Fig .1-11. *Bagh-e Pahlavanpur*



Fig .1-12. *Bagh-e Akbariyeh*

**1.e. Maps and plans, showing the boundaries of the nominated Property & Buffer zone**

See maps in map vol. (appendix).

No	Site name	Map Title	Map ref.	Map No.
-	-	Identification map	A	1
1	<i>Ancient Garden of pasargadae</i>	Location	A-I	2
		Core and buffer zone	A-I-1	3
			A-I-2	4
		Site Plan	A-I-3	5
		Architecture	A-I-4	6
			A-I-4-1	7
			A-I-4-1-1	8
			A-I-4-1-2	9
			A-I-4-2	10
			A-I-4-2-1	11
			2	<i>Bagh-e Eram</i>
Core and buffer zone	A-II-1	13		
	A-II-2	14		
Site Plan	A-II-3	15		
Architecture	A-II-4	16		
Water Course	A-II-5	17		
Plant	A-II-6	18		
	A-II-6-1,...4	19-22		
3	<i>Bagh-e Chehelsotun</i>	Location	A-III	23
		Core and buffer zone	A-III-1	24
			A-III-2	25
		Site Plan	A-III-3	26
		Architecture	A-III-4	27
			A-III-4-1	28
		Water Course	A-III-5	29
Plant	A-III-6	30		
4	<i>Bagh-e Fin</i>	Location	A-IV	31
		Core and buffer zone	A-IV-1-1,2	32-33
			A-IV-2	34
		Site Plan	A-IV-3	35
		Architecture	A-IV-4	36
			A-IV-4-1,...4	37-40
		Water Course	A-IV-5	41
Plant	A-IV-6	42		
5	<i>Bagh-e Abas Abad</i>	Location	A-V	43
		Core and buffer zone	A-V-1	44
			A-V-2	45
		Site Plan	A-V-3	46
		Architecture	A-V-4	47
			A-V-4-1,...4	48-51
		Water Course	A-V-5	52
			A-V-5-1	53
Plant	A-V-6	54		


No	Site name	Map	Map ref.	MapNo.
6	<i>Bagh-e Shahzadeh</i>	Location	A-VI	55
		Core and buffer zone	A-VI-1	56
			A-VI-2	57
		Site Plan	A-VI-3	58
		Architecture	A-VI-4	59
			A-VI-4-1,...4	60-63
Water Course Plant	A-VI-5	64		
7	<i>Bagh-e Dolat Abad</i>	Location	A-VII	65
		Core and buffer zone	A-VII-1	66
			A-VII-2	67
		Site Plan	A-VII-3	68
		Architecture	A-VII-4	69
			A-VII-4-1	70
Water Course Plant	A-VII-5	71		
8	<i>Bagh-e Pahlavanpur</i>	Location	A-VIII	72
		Core and buffer zone	A-VIII-1	73
			A-VIII-2	74
		Site Plan	A-VIII-3	75
		Architecture	A-VIII-4-1	76
			A-VIII-4-2	77
Water Course Plant	A-VIII-5	78		
9	<i>Bagh-e Akbariyeh</i>	Location	A-IX	79
		Core and buffer zone	A-IX-1	80
			A-IX-2	81
		Site Plan	A-IX-3	82
		Architecture	A-IX-4	83
			A-IX-4-1	84
			A-IX-4-2	85
Water Course	A-IX-5	86		
Plant	A-IX-6	87		

**1.f. Area of nominated property**

No.	Name of the Nominated Garden	Province/ City	Geographical Coordinates	Area core zone (ha)	Area Buffer zone (ha)	Total (ha)
1	<i>Ancient garden of Pasargadae</i>	Fars/ Shiraz	N: 30° 10' 0.0'' E: 53° 10' 0.0''	249,65	2006,95	2256,60
2	<i>Bagh-e Eram</i>	Fars/ Shiraz	N: 29° 38' 10.03'' E: 52° 31' 31''	12,70	70,50	83,20
3	<i>Bagh-e Chehel Sotun</i>	Isfahan/ Isfahan	N: 32° 39' 27'' E: 51° 40' 20''	5,80	28,92	34,72
4	<i>Bagh-e Fin</i>	Isfahan/ Kashan	N: 33° 22' 20.53'' E: 51° 22' 20.53''	7,60	173,40	181
5	<i>Bagh-e Abas Abad</i>	Mazandaran/ Behshahr	N: 36° 39' 50'' E: 53° 35' 38''	420,20	1169,65	1589,85
6	<i>Bagh-e Shahzadeh</i>	Kerman/ Mahan	N: 30° 01' 30'' E: 57° 16' 59''	5,5	6181,5	6187
7	<i>Bagh-e Dolat Abad</i>	Yazd/ Yazd	N: 31° D4' 12.30'' E: 54° 21' 6.59''	8	72	80
8	<i>Bagh-e Pahlavanpur</i>	Yazd/ Mehriz	N: 31° 33' 36.6'' E: 54° 26' 25.21''	3,5	28,5	32
9	<i>Bagh-e Akbariyeh</i>	Southern Khorasan/ Birjand	N: 32° D1' 10'' E: 59° 13' 40''	3,40	8,60	12



I.Ancient Garden of Pasargadae

Geographical Coordinates	
	N: 30° 10' 0.0''
	E: 53° 10' 0.0''

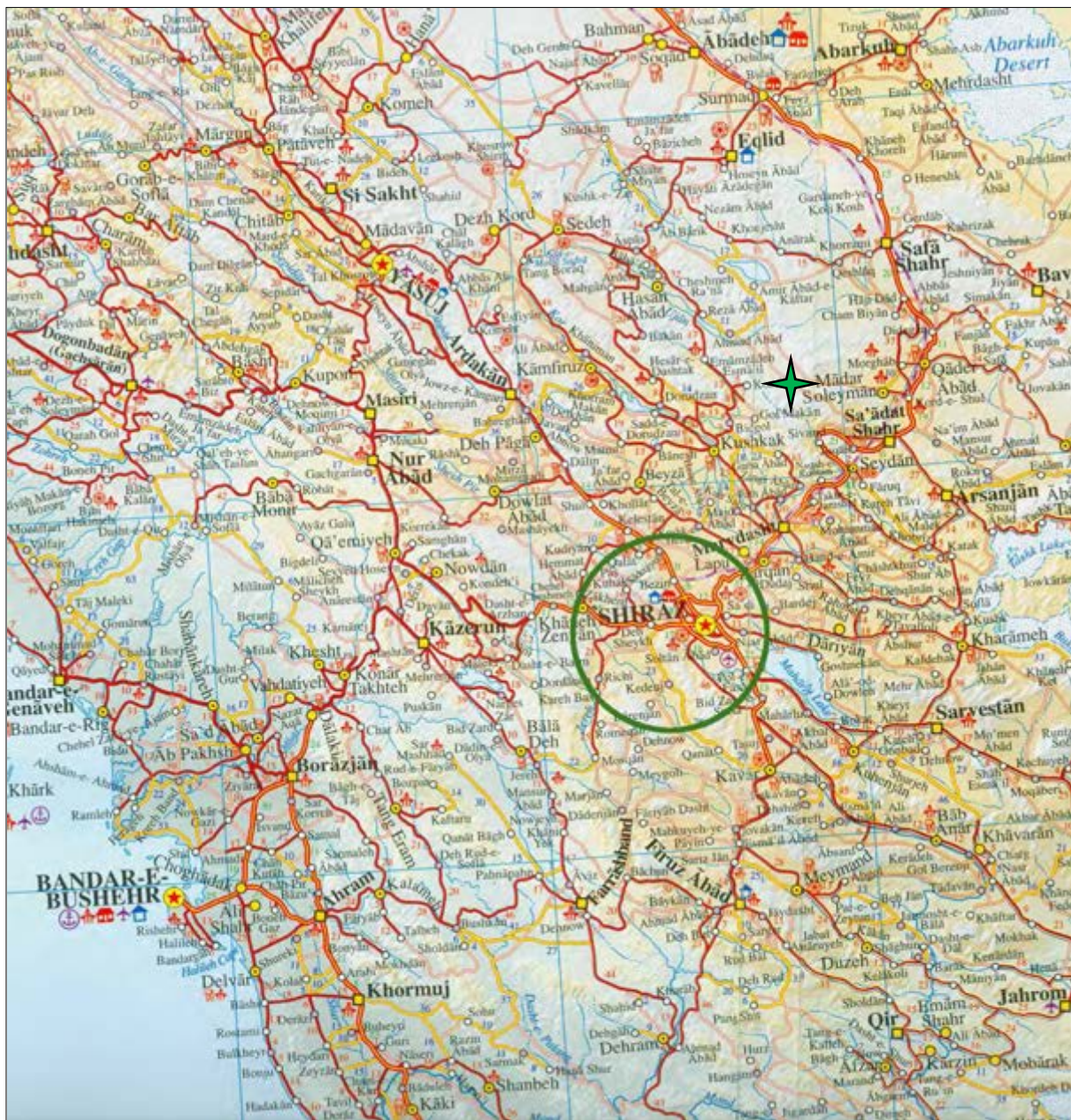


Fig 1-13. Location of the Ancient Garden of Pasargadae- Shiraz

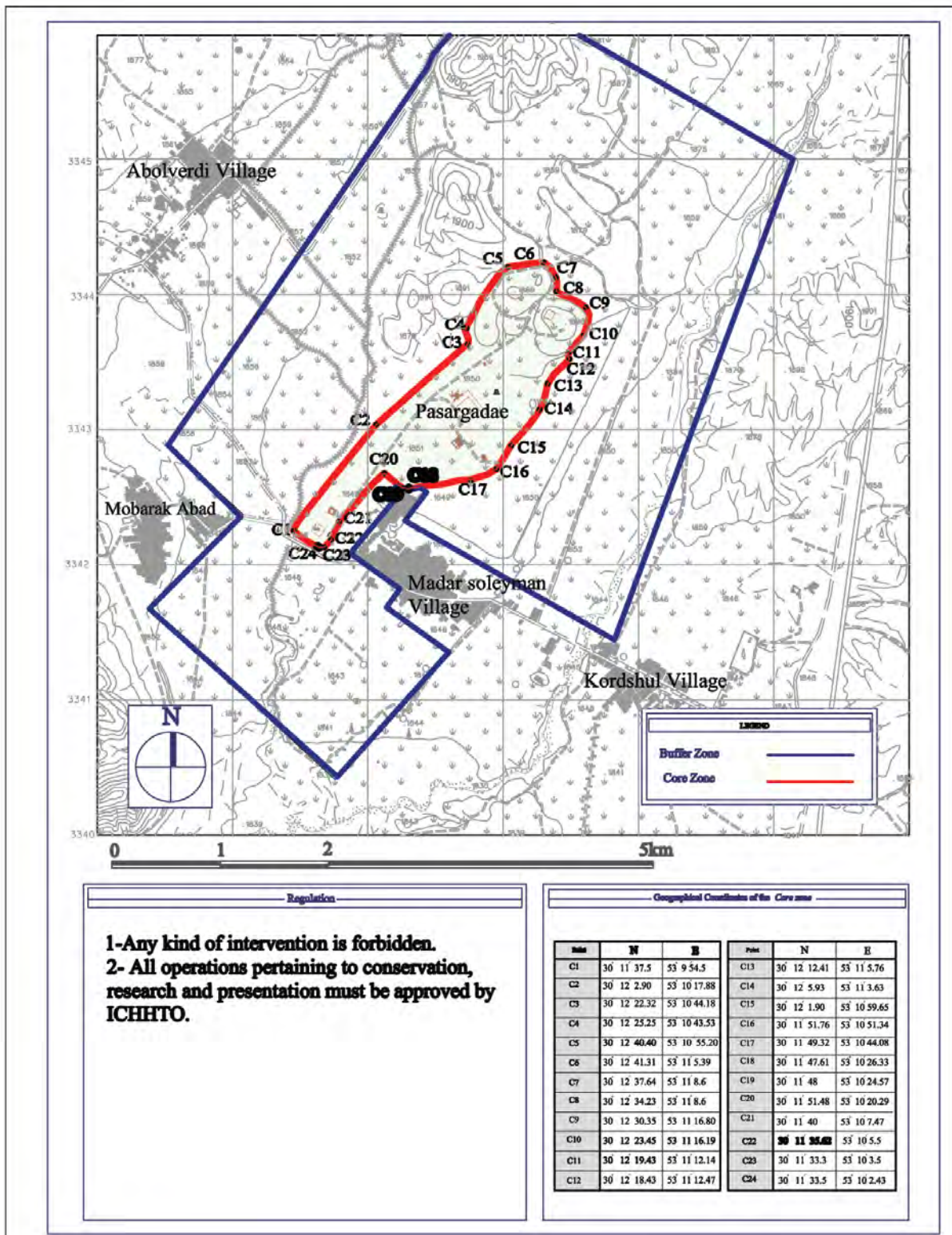


Fig. 1-14. Ancient Garden of Pasargadae Core Zone boundary

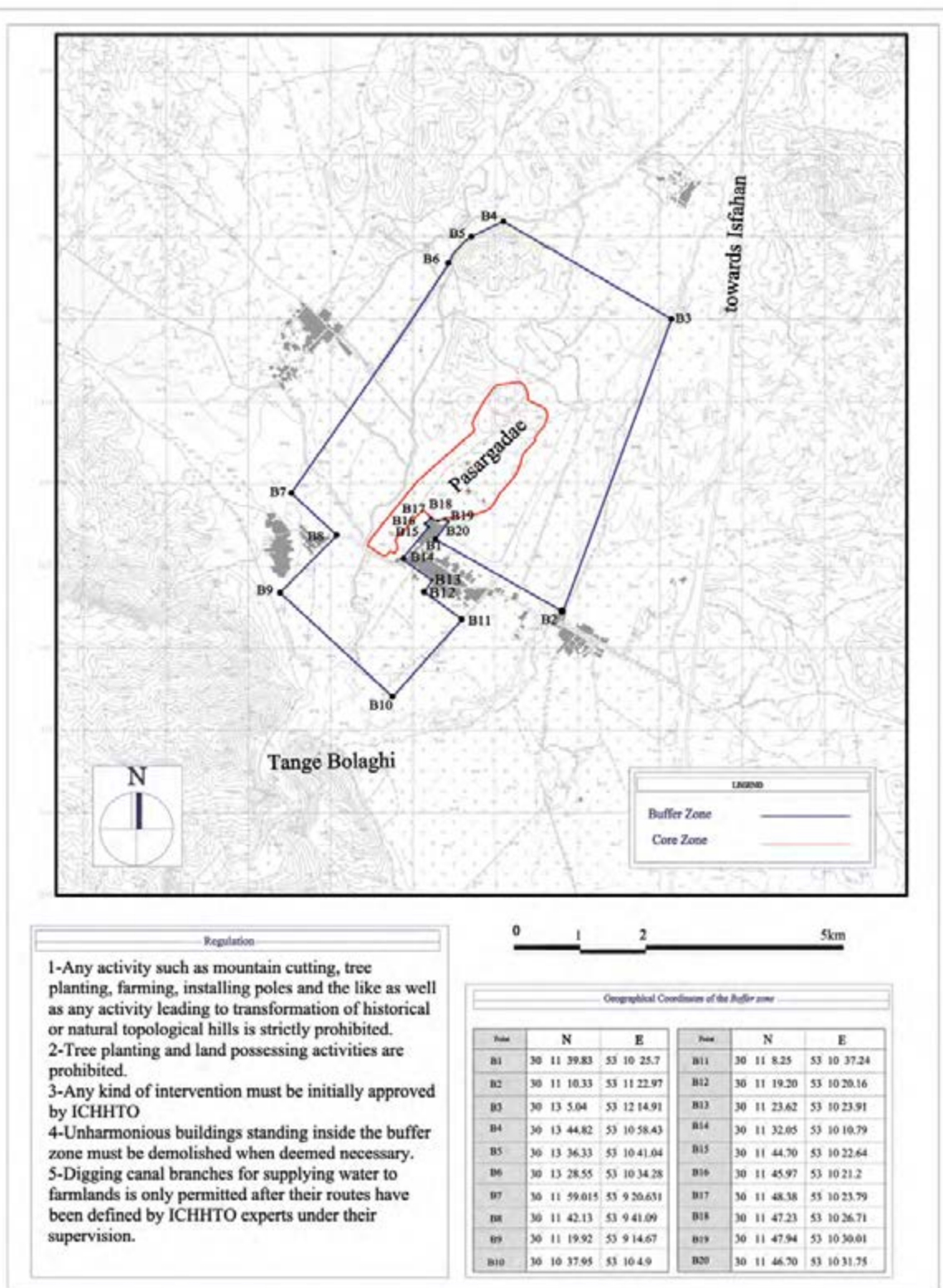



Fig. 1-15. Ancient Garden of Pasargadae Buffer Zone boundary

II. Bagh-e Eram

Geographical Coordinates	
	N: 29° 38' 10.03''
	E: 52° 31' 31''

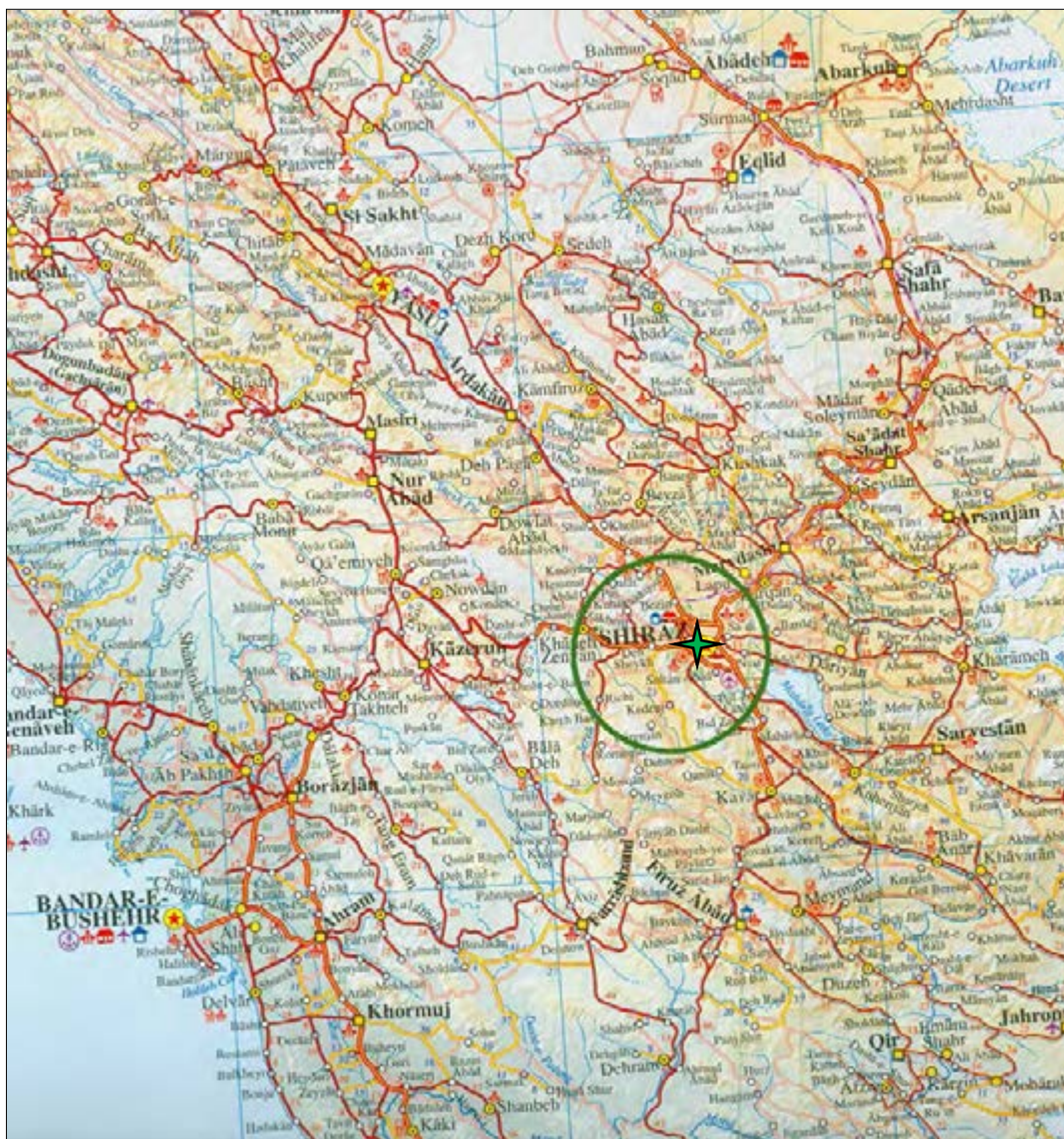


Fig. 1-16. Location of the Bagh-e Eram- Shiraz

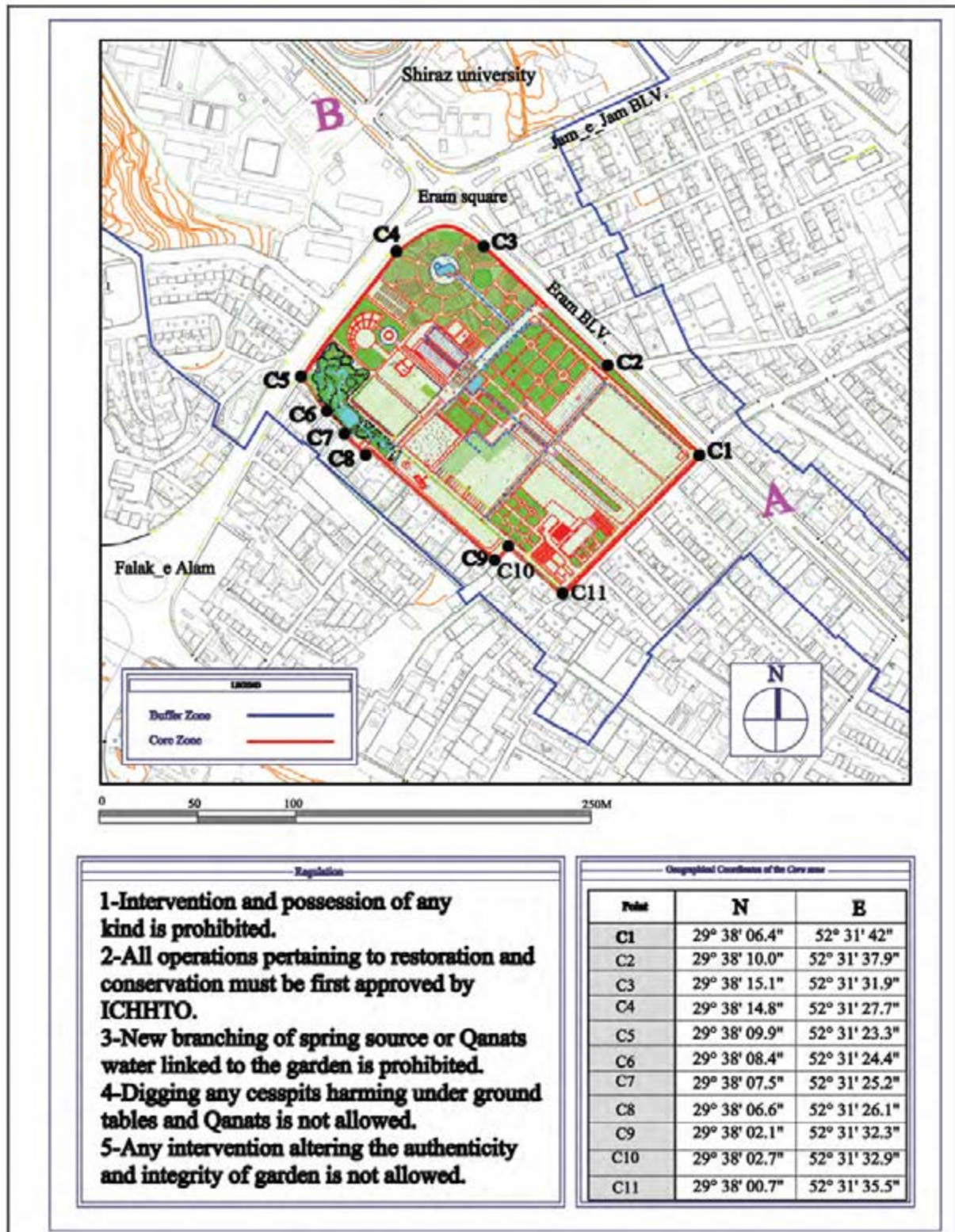


Fig. 1-17. Bagh-e Eram Core Zone boundary

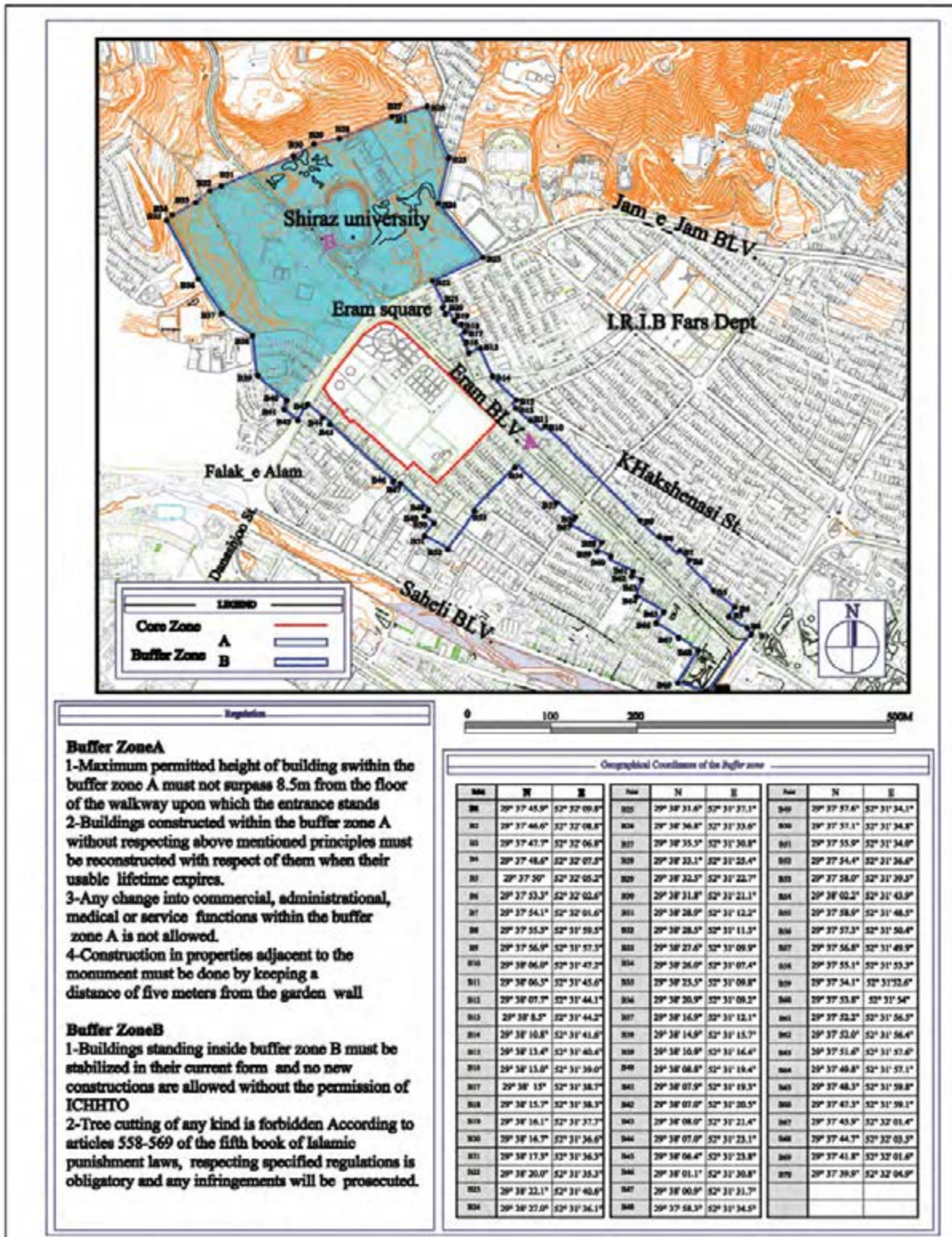



Fig. 1-18. Bagh-e Eram Buffer Zone boundary

III. Bagh-e Chehel Sotun

Geographical Coordinates

 N: 32° 39' 27''  
E: 51° 40' 20''

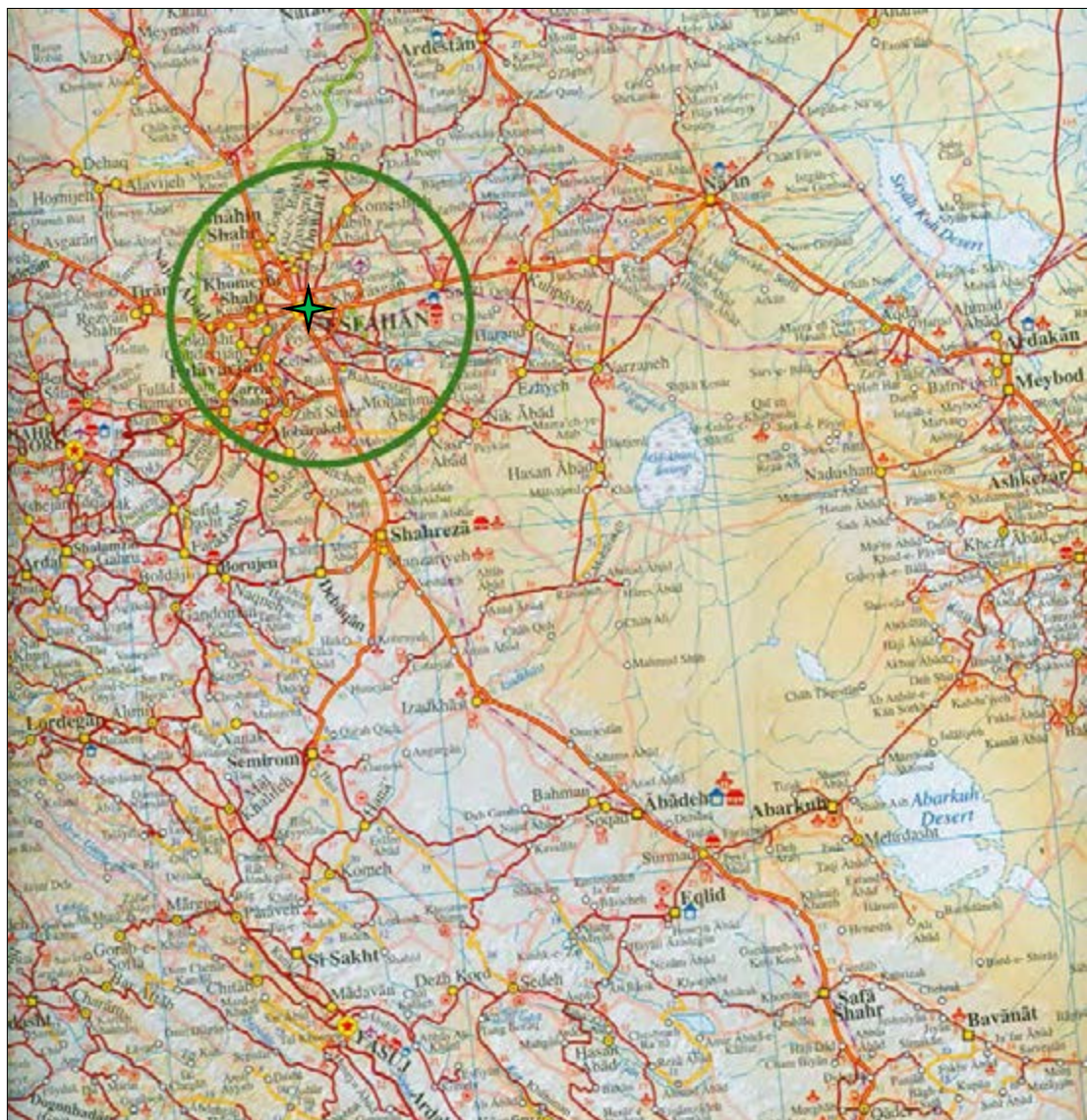


Fig. 1-19. Location of the *Bagh-e Chehel Sotun*-Isfahan

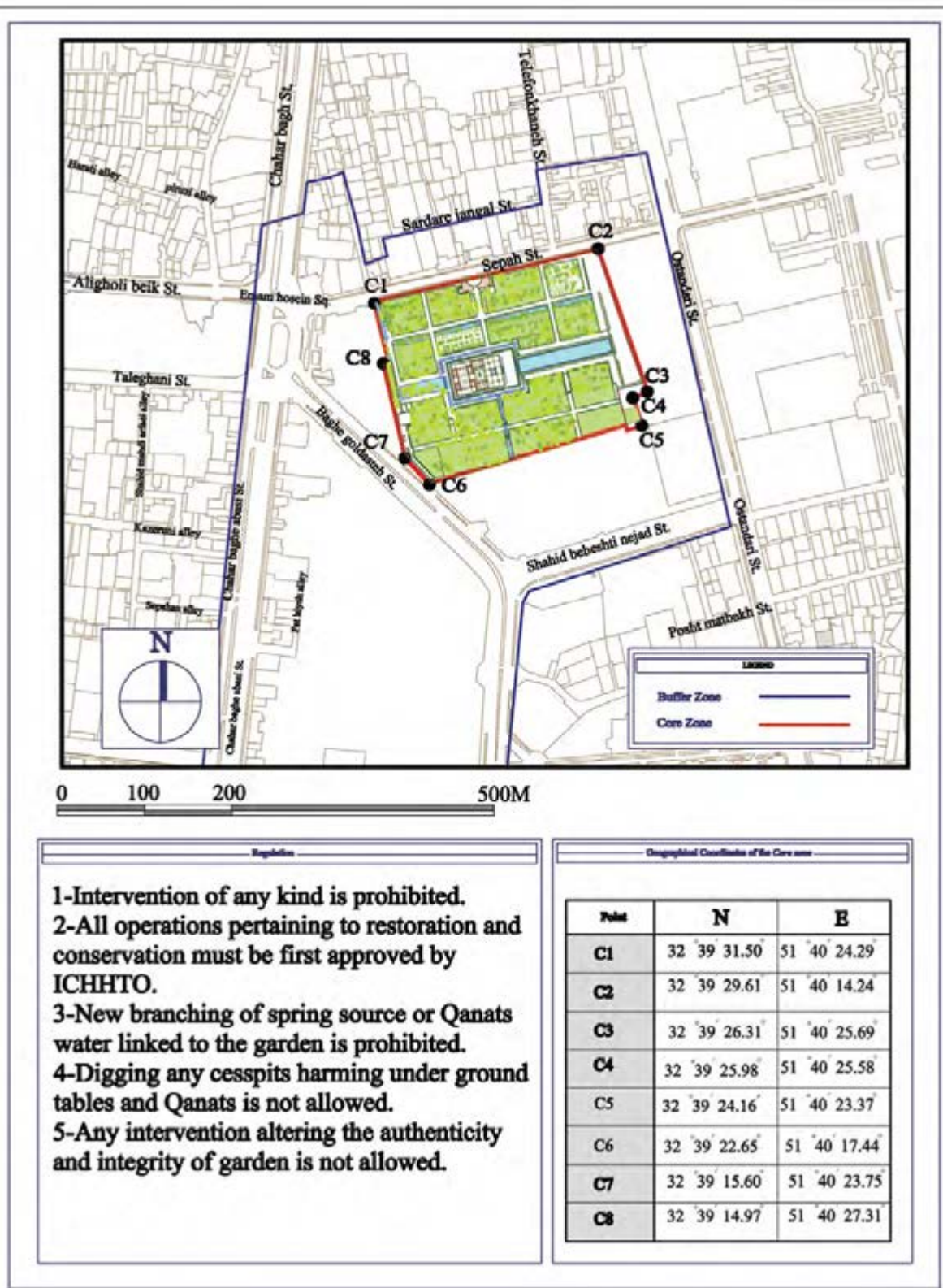


Fig. 1-20. Bagh-e Chehel Sotun Core Zone boundary



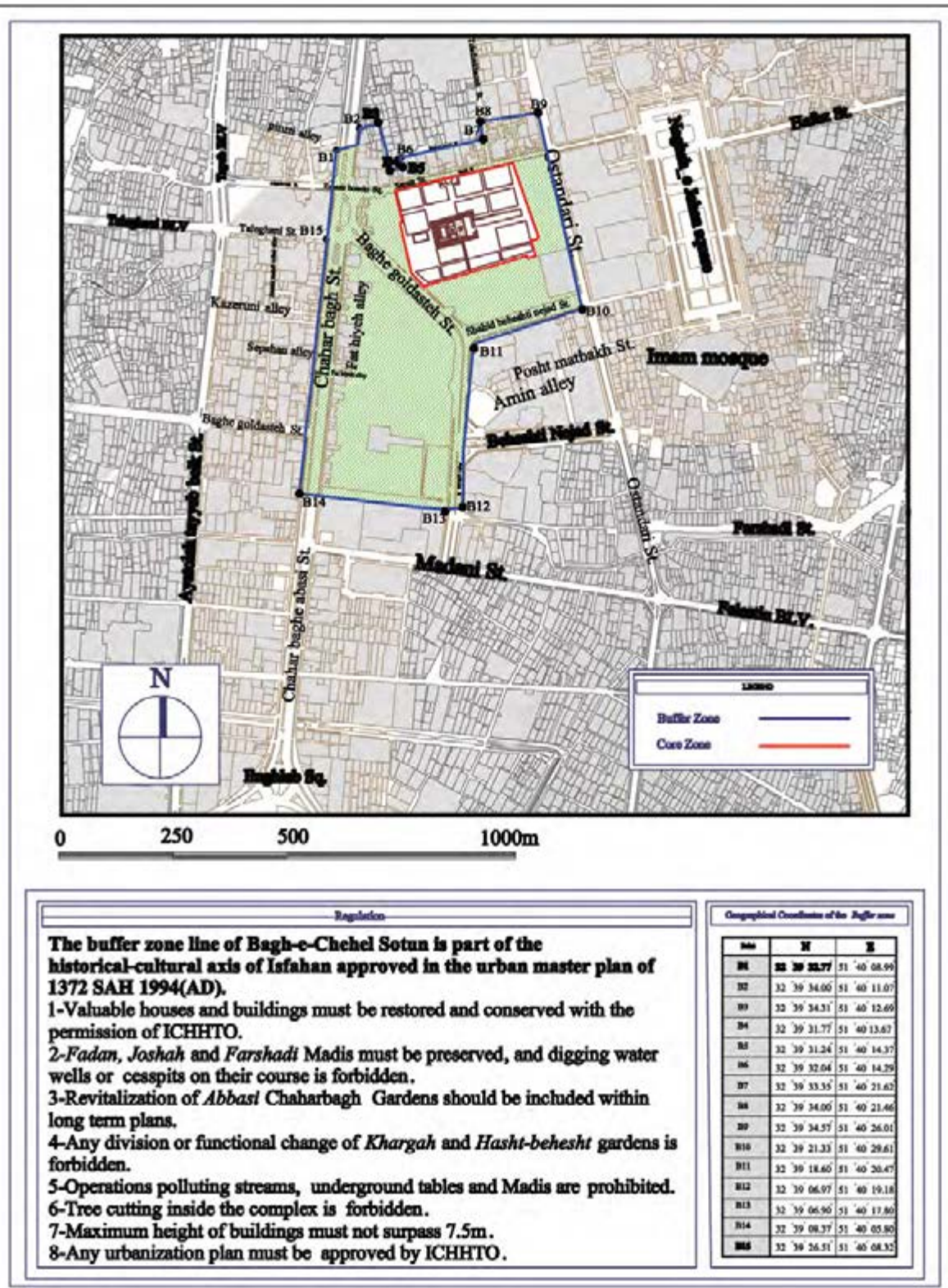


Fig. 1-21. Bagh-e Chehel Sotun Buffer Zone boundary

IV. Bagh-e Fin

Geographical Coordinates

✦ N: 33° 22' 20.53''  
E: 51° 22' 20.53''

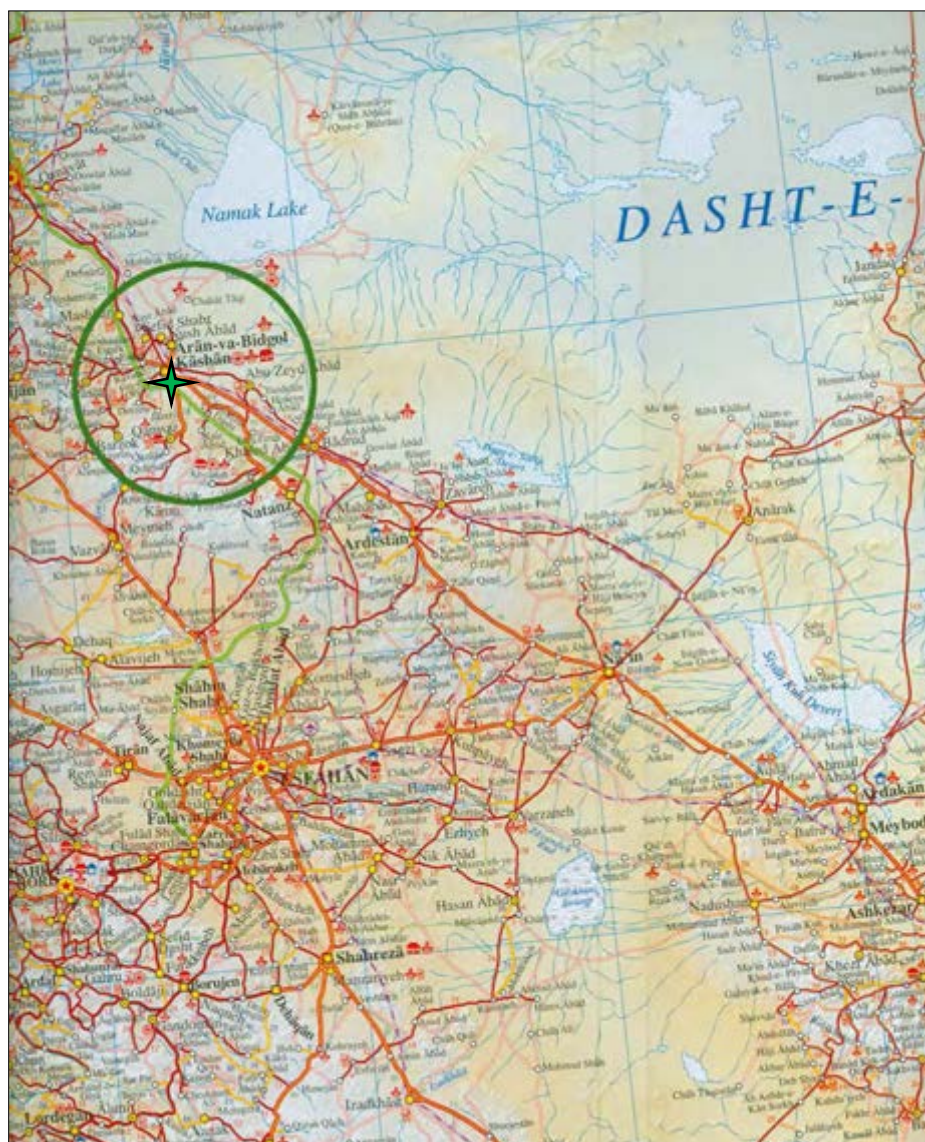


Fig. 1-22. Location of the Bagh-e Fin- Kashan

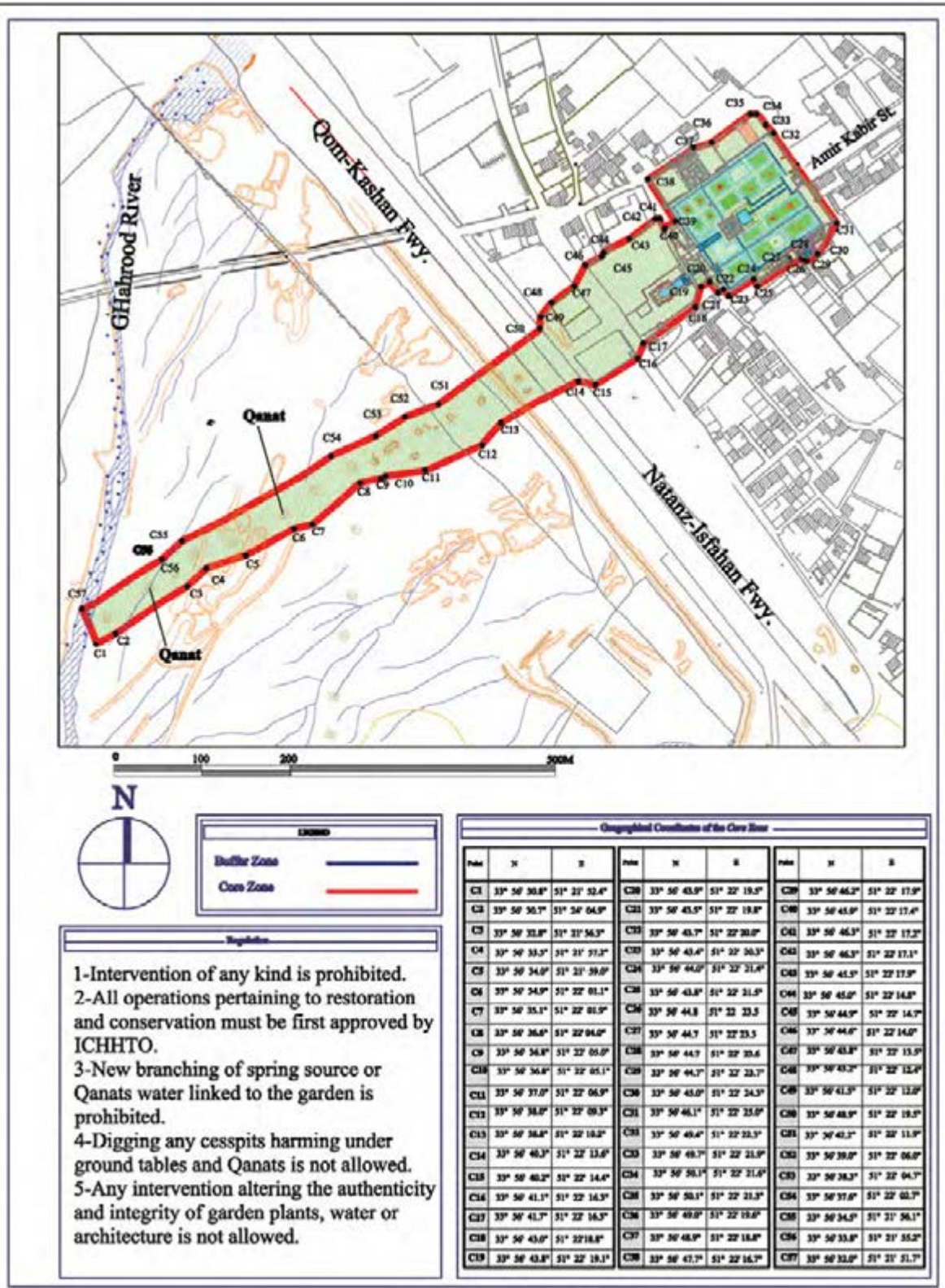


Fig. 1-23. Bagh-e Fin Core Zone boundary

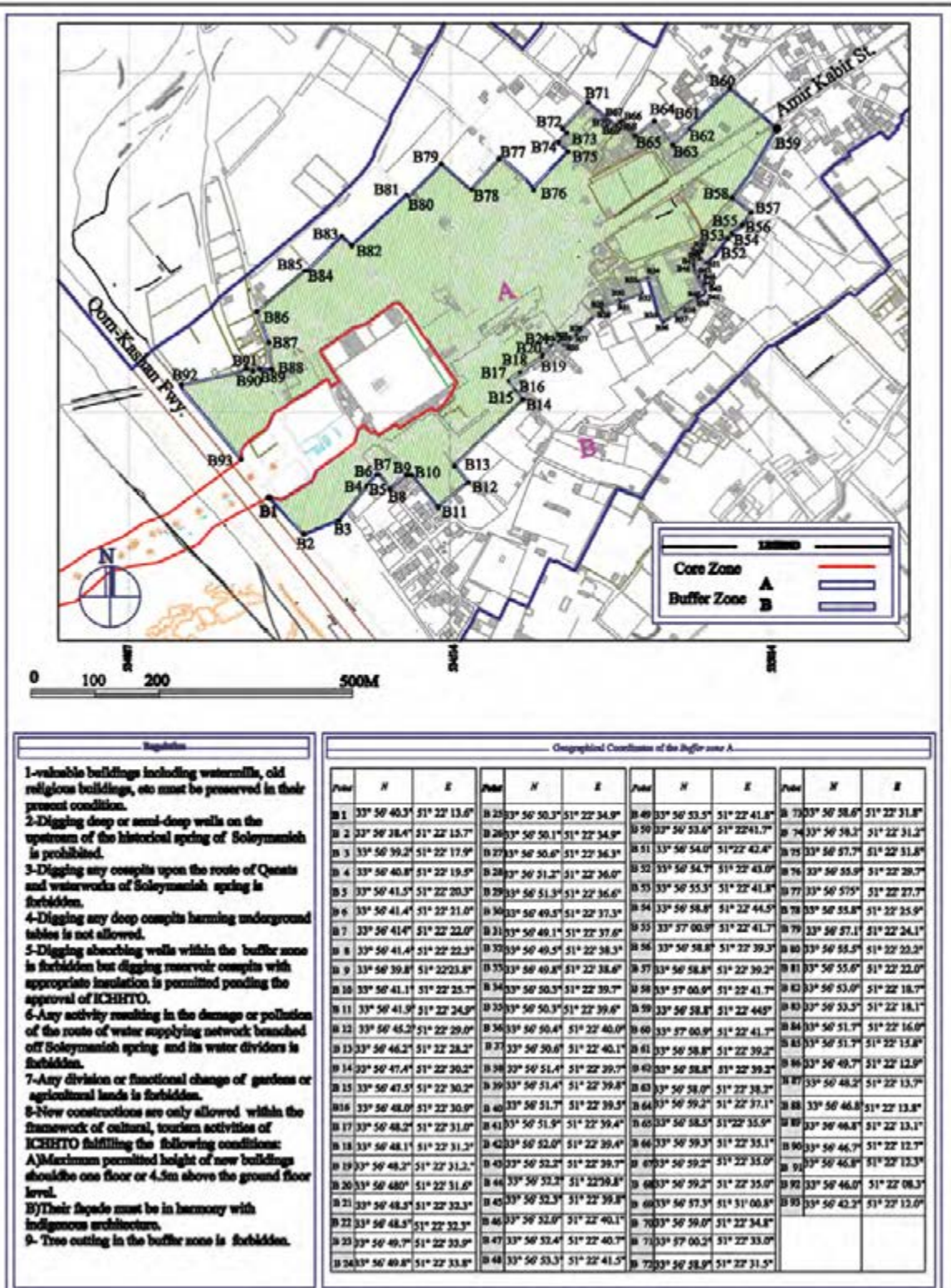


Fig. 1-24. Bagh-e Fin Buffer zone boundary (Zone A)

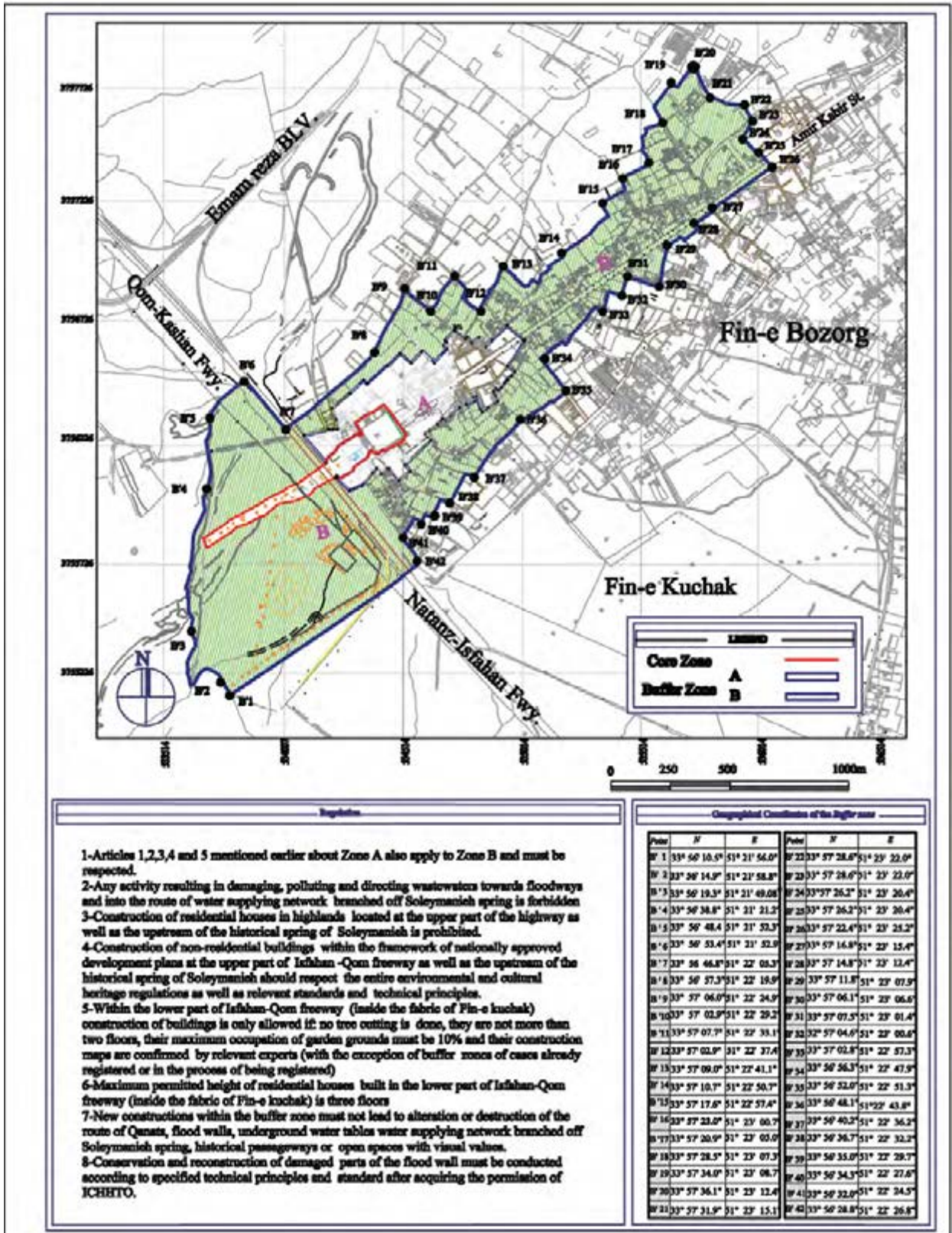


Fig. 1-25. Bagh-e Fin Buffer zone boundary (Zone B)

V. Bagh-e Abas Abad


Geographical Coordinates	
	N:36° 39' 50''
	E: 53° 35' 38''



Fig. 1-26. Location of the Bagh-e Abas Abad - Mazandaran

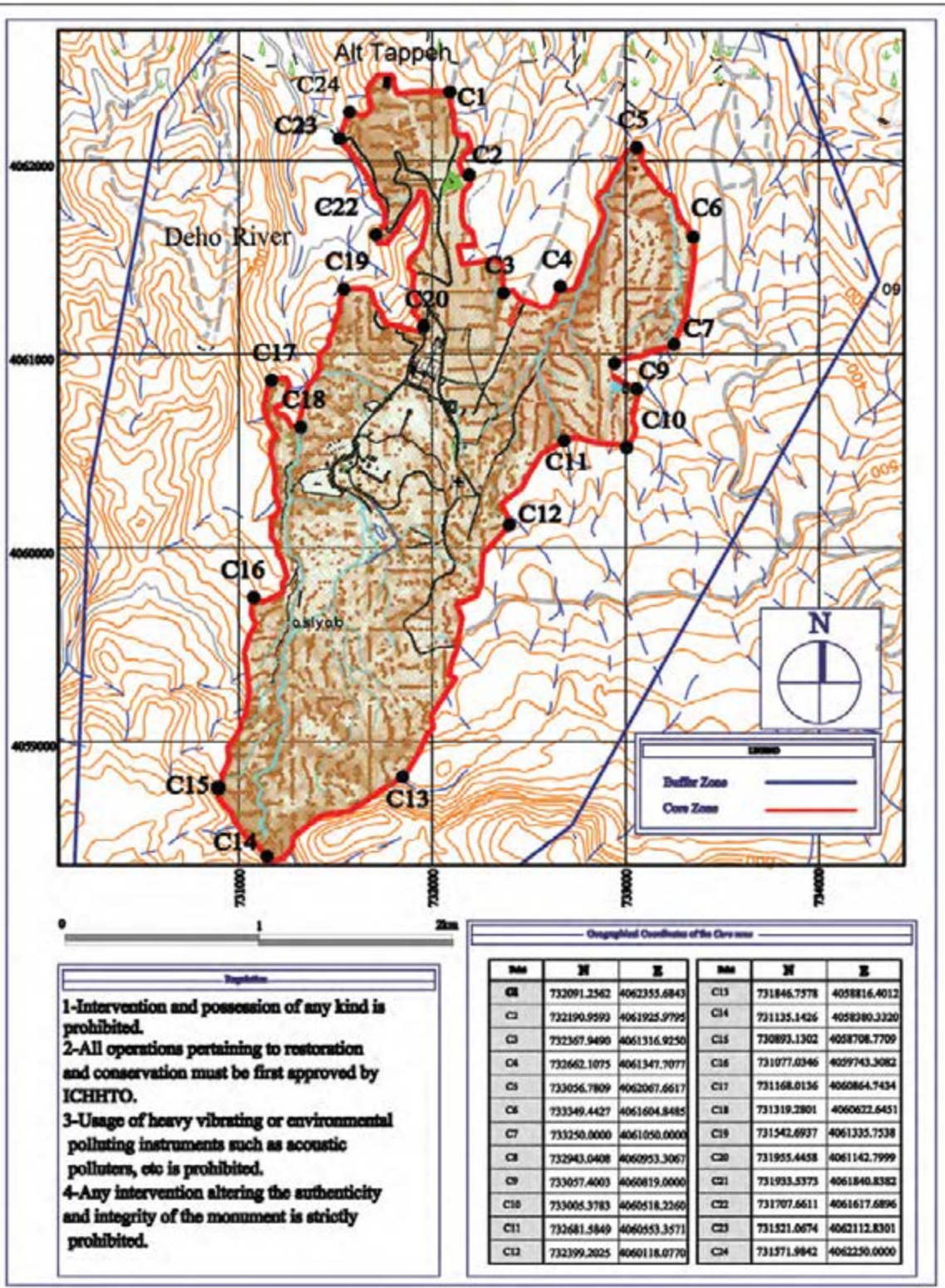


Fig. 1-27. Bagh-e Abas Abad Core Zone boundary

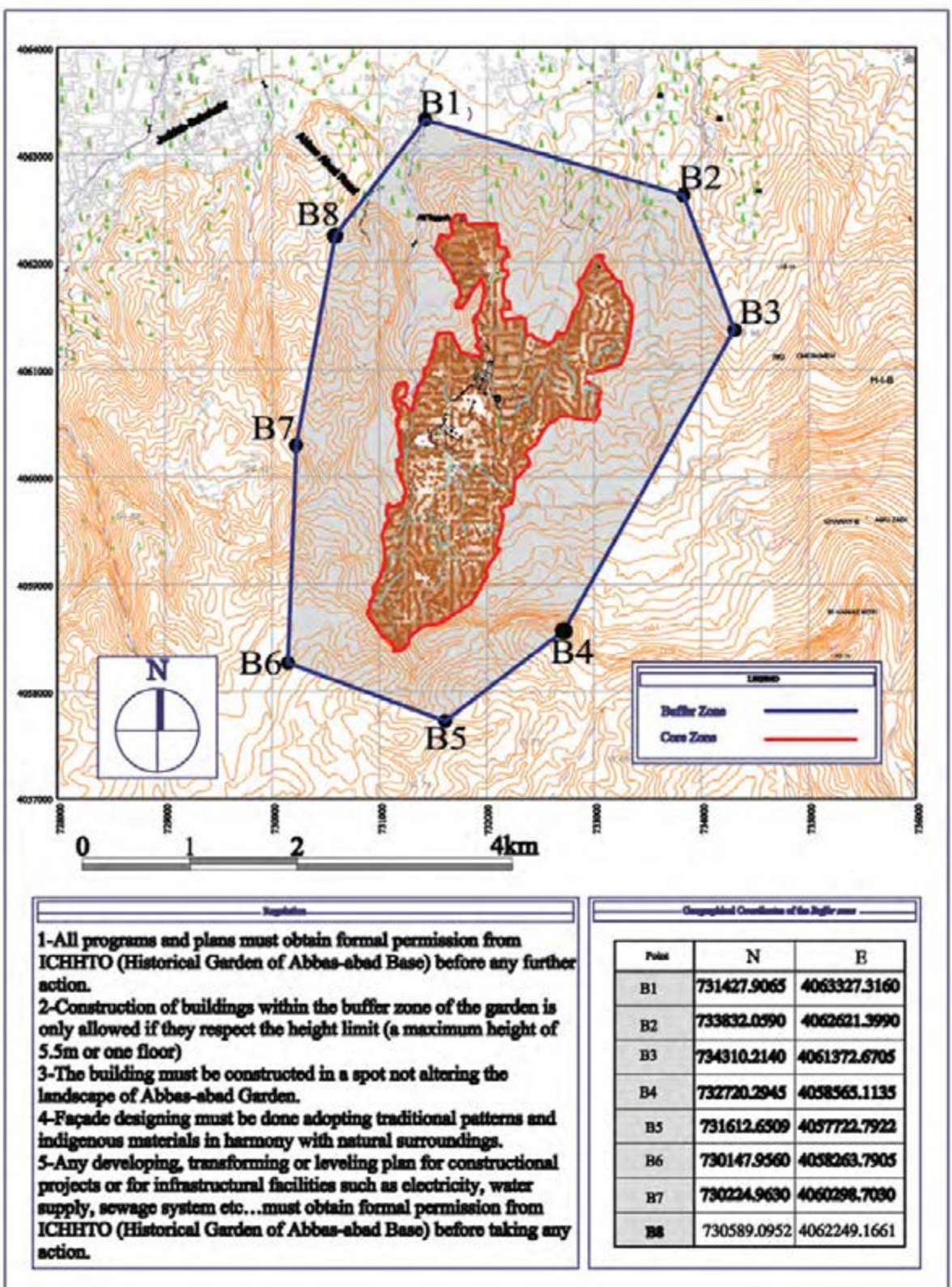



Fig. 1-28. Bagh-e Abbas Abad Buffer Zone boundary



1.e.6. *Bagh-e Shahzadeh* (Mahan)

Geographical Coordinates	
	N: 30° 01' 30''
	E: 57° 16' 59''

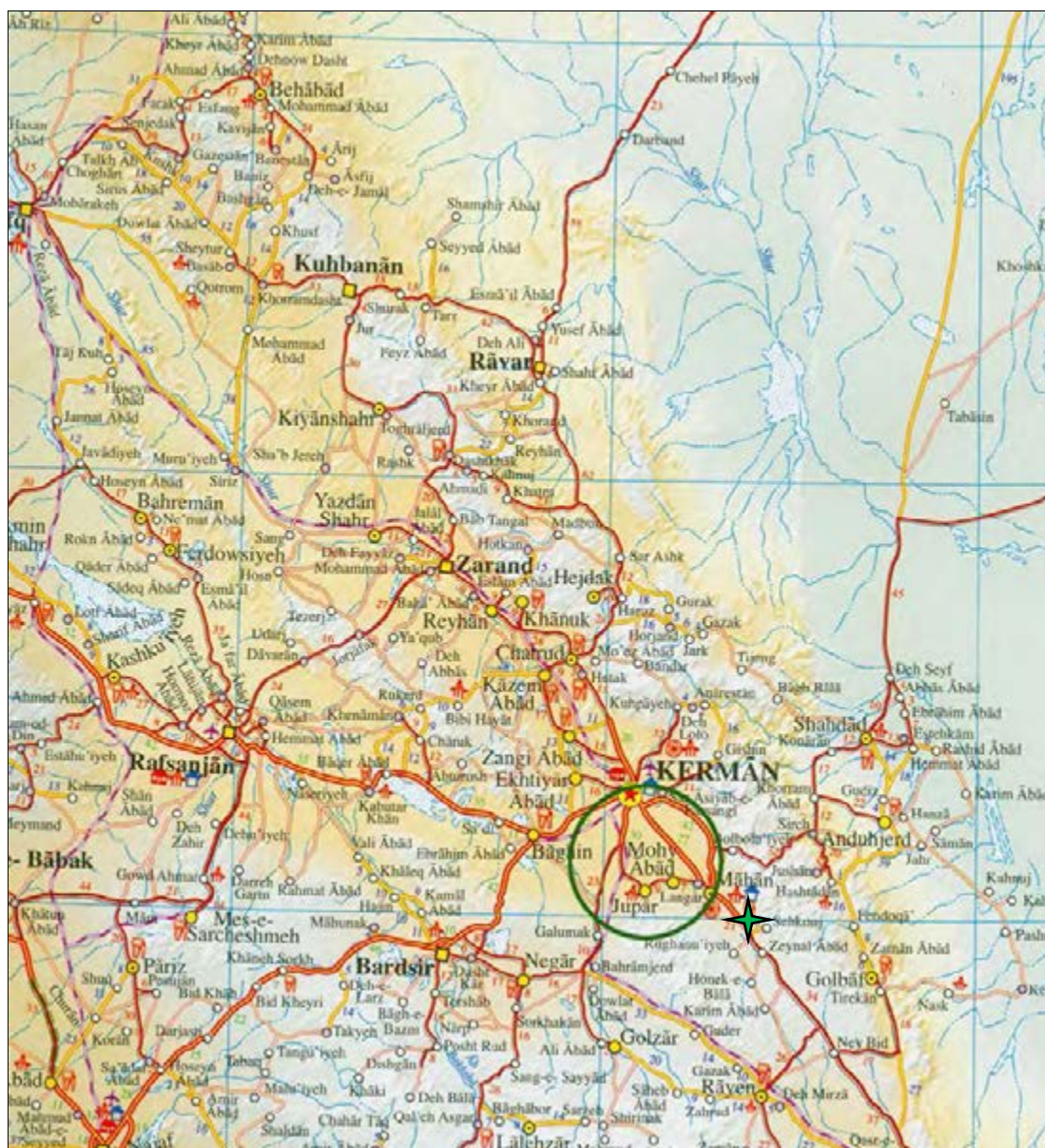


Fig. 1-29. Location of *the Bagh-e Shahzadeh* - Kerman



Fig. 1-30. Bagh-e Shahzadeh Core Zone boundary

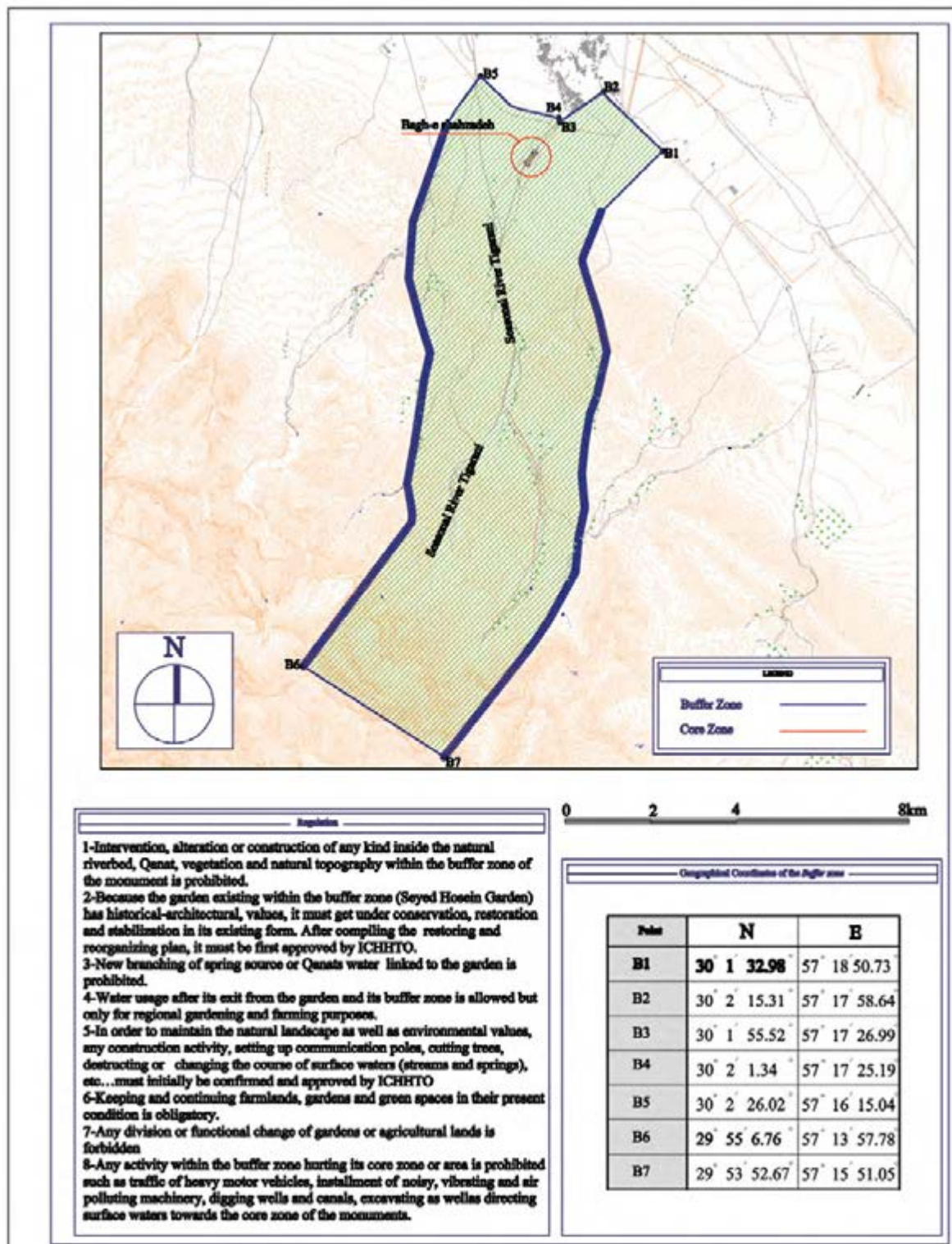



Fig. 1-31. Bagh-e Shahzadeh Buffer Zone boundary

VII. *Bagh-e Dolat Abad*

**Geographical Coordinates**

 N: 31° 54' 12.30''  
 E: 54° 21' 6.59''

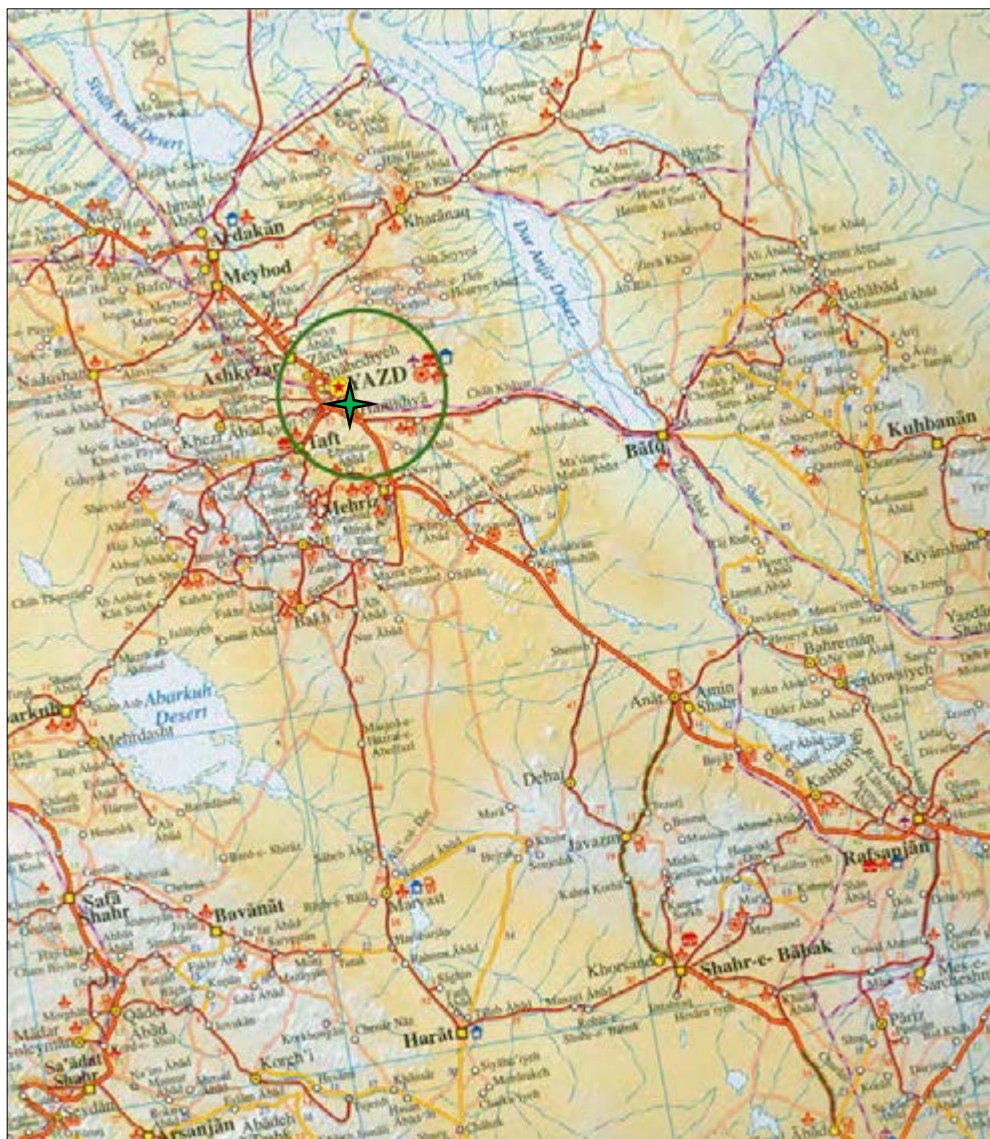


Fig. 1-32. Location of the *Bagh-e Dolat Abad* - Yazd

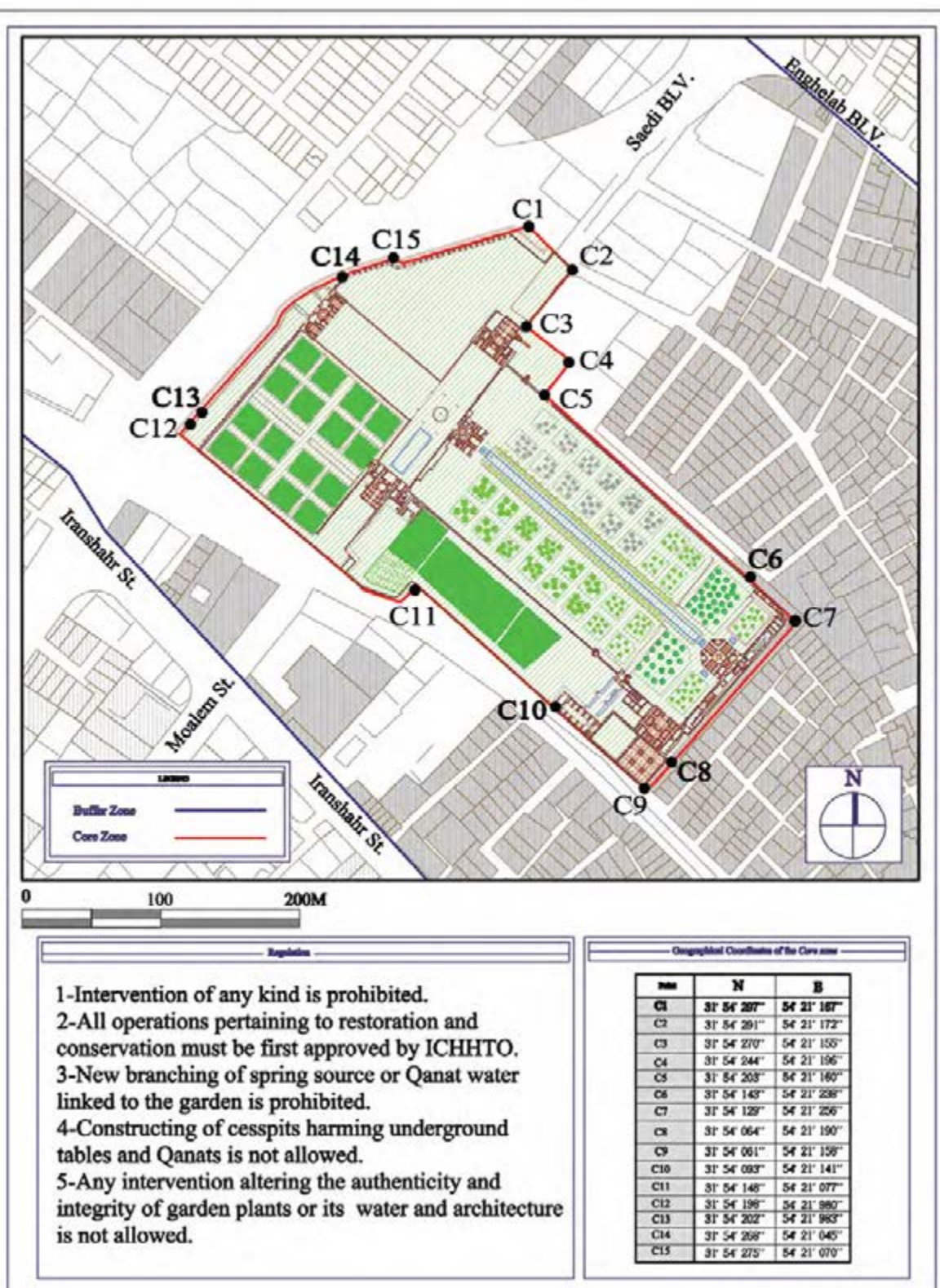


Fig. 1-33. Bagh-e Dolat Abad Core Zone

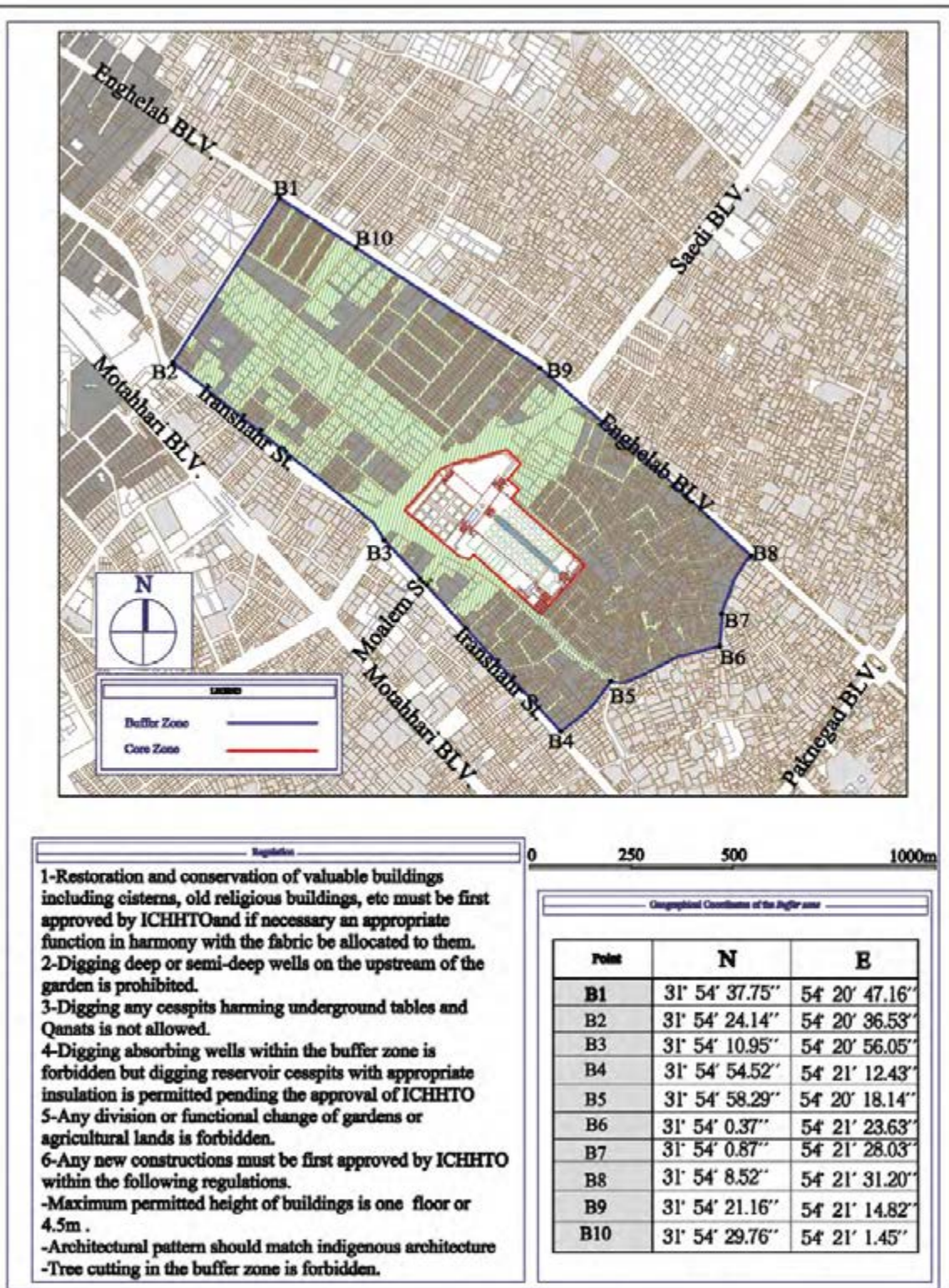



Fig. 1-34. Bagh-e Dolat Abad Buffer Zone boundary

VIII. Bagh-e Pahlavanpur

Geographical Coordinates	
	N: 31° 33' 36.6''
	E: 54° 26' 25.21''

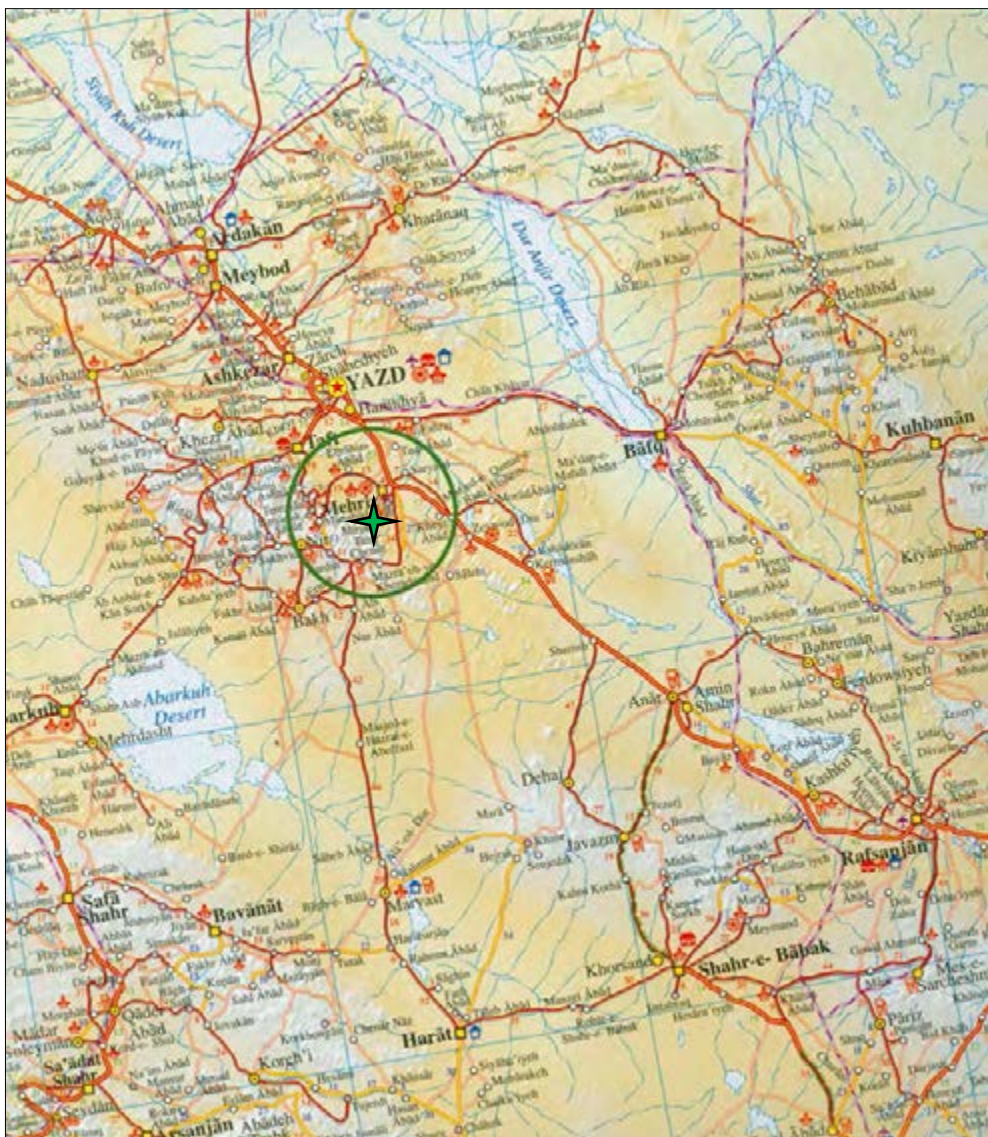


Fig. 1-35. Location of the Bagh-e Pahlavanpur- Yazd

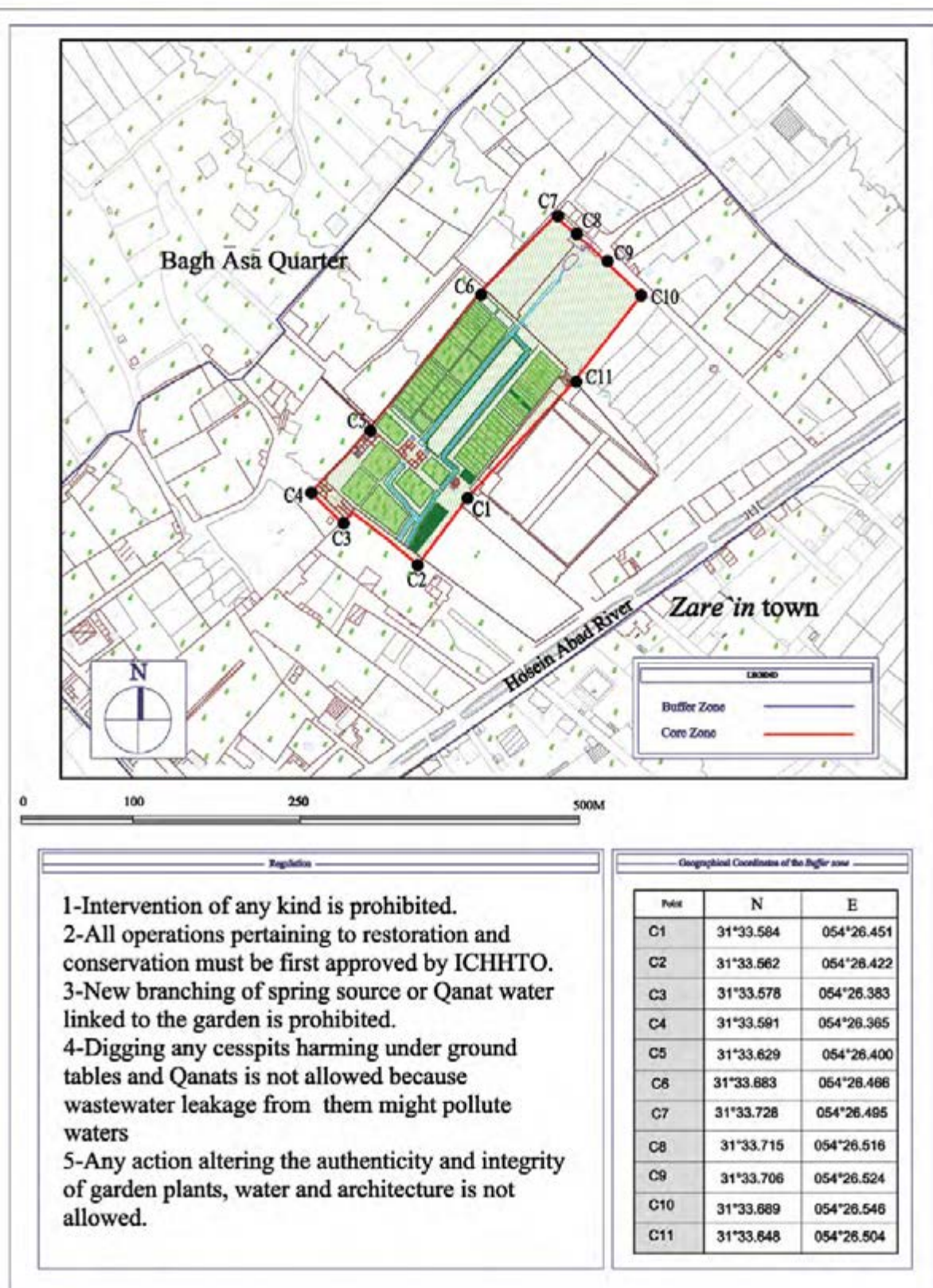


Fig. 1-36. Bagh-e Pahlavanpur Core Zone boundary



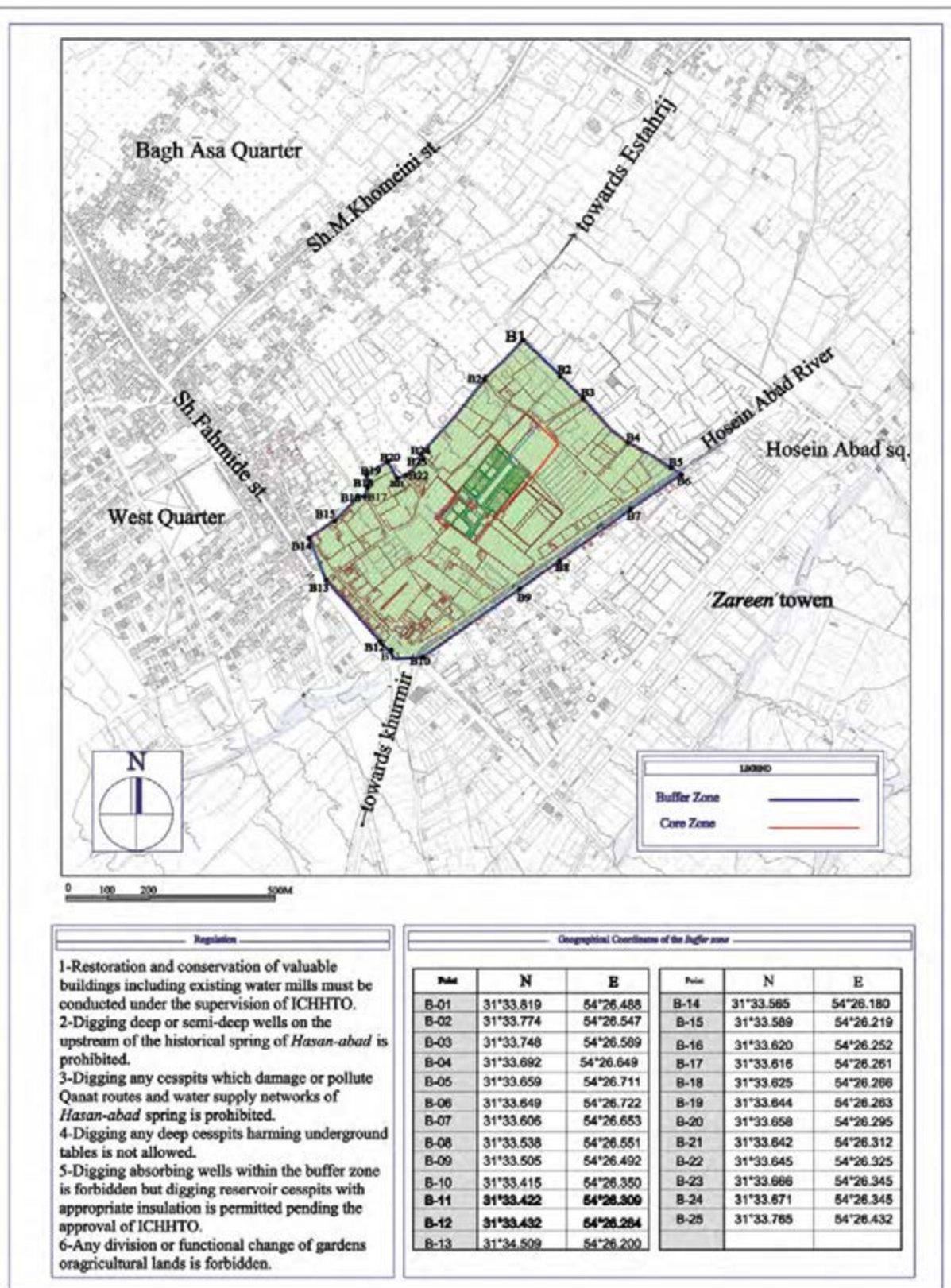


Fig. 1-37. Bagh-e Pahlavanpur Buffer Zone boundary

IX. Bagh-e Akbariyeh

Geographical Coordinates



N: 32° 51' 10''  
E: 59° 13' 40''



Fig.1- 38. Location of the Bagh-e Akbariyeh -Birjand

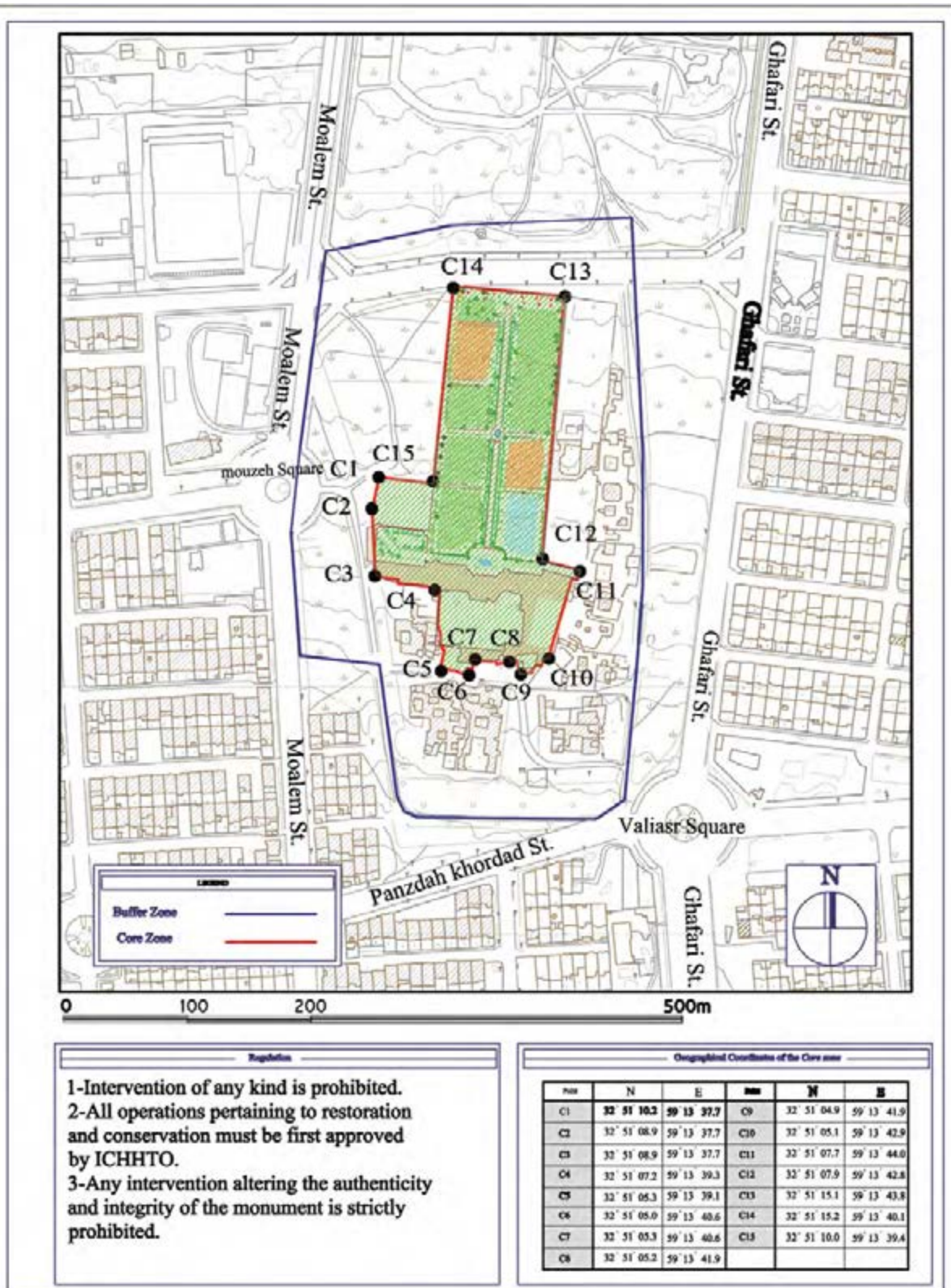


Fig. 1-39. Bagh-e Akbariyeh Core Zone boundary

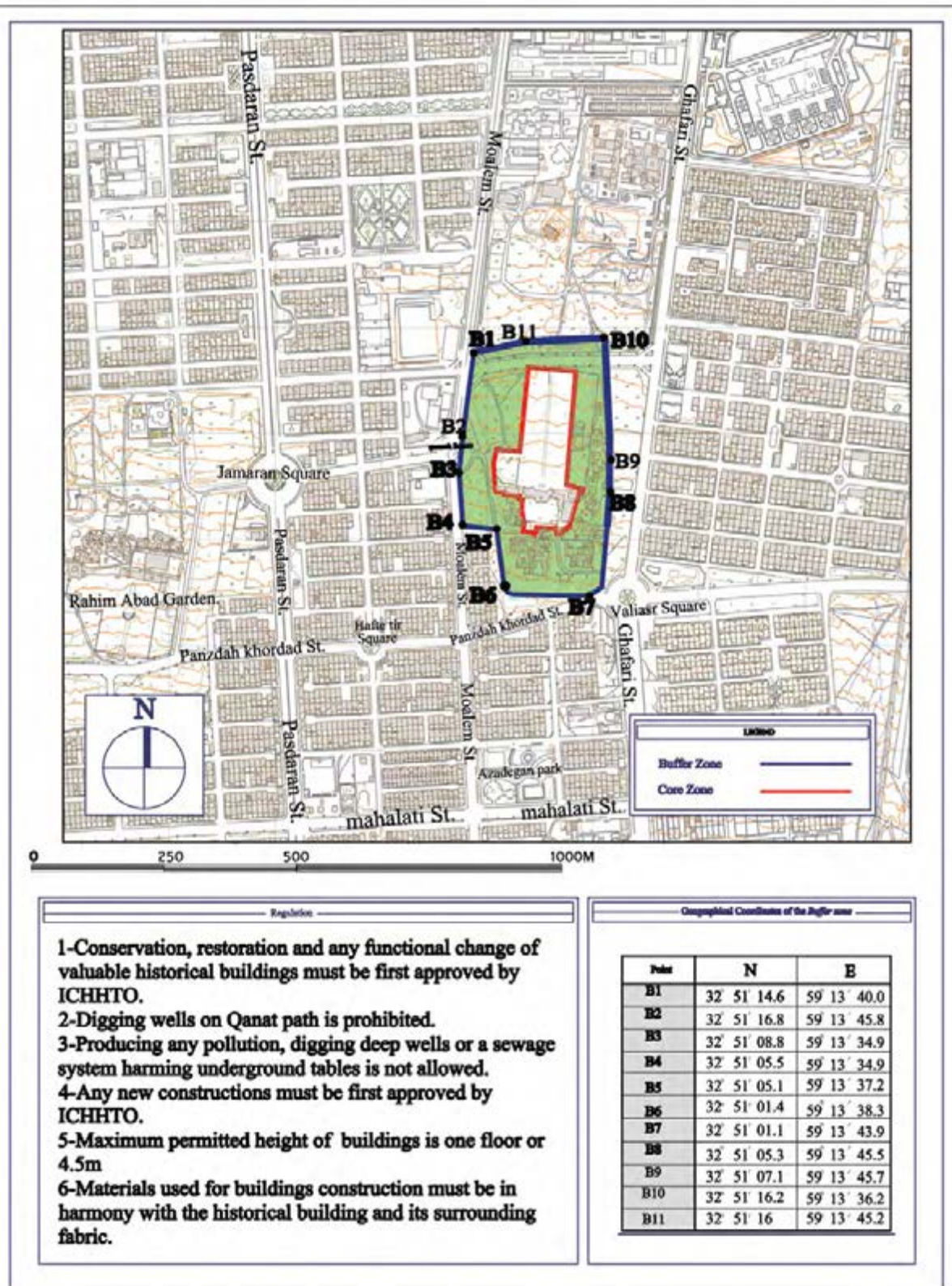


Fig. 1-40. Bagh-e Akbariyeh Buffer Zone boundary

## 2.a. Description of property

### 2.a.1. General description

"Iranians love of trees, water, and flowers has gradually turned into an eternal love which has manifested itself in Persian Gardens." (Arthur Pope)<sup>1</sup>

The term "garden" originally meant a piece of land, share, heir, portion, or profit. It was applied to refer to a plantation of trees, bushes, or even sown plants. A garden was usually attached to any given Iranian property, and all houses encompassed a small garden.<sup>2</sup> As inferred from the writings of a Greek author, Iranian houses were surrounded by gardens 3000 years ago, to refer to which the term *Pardis* was used.

The great Iranian lexicographer, *Ali Akbar Dehkhoda* defines the term *Pardis* as follows:

"Borrowed from *Median Paradaeza*, meaning garden. The Persian term *Paliz*, and the arabicized *Ferdows* are also derived from this term."

Used in *Avesta* twice, this term is formed of two parts: *Pairi*, which means the surroundings, and *Daeza*, which means to pile up, or to surround by walls; altogether, the terms means planting flowers or trees around the building.

The term changed to *Paliz* in Pahlavis language, and came into usage in *Dari* dialect of Persian language. Gardens all around Iran were so large and magnificent during the rule of the Achaemenids and afterwards as they appealed to people of the ancient Greece and other lands insomuch as they chose to apply the Persian term to refer to them. Today, the same word is used in Greek language as *Paradeisos*, and in English as *Paradise*, meaning the heaven.

The other named used to refer to such a pleasant, prosperously planted place is *Bagh*, which is in turn another Persian word, used also in Pahlavis and Sogdians languages. Some believe that this word is originally common between Persian and Arabic, whose plural form is *Bayqan*, whereas it is undoubtedly known that it is an originally Persian word, which has been borrowed by other languages.

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<sup>1</sup> Wilber, Donald (1989); "Persian Gardens and Garden Pavilions".

<sup>2</sup> Talebian, M. H. (2004); "The Persian Garden and Pasargadae", Page: 1.

Iranians have always shown great interest in building gardens and flower-beds around their houses, which is thought to be rooted in the memories of the original homeland of the Arians, who once used to make flowerbeds around the buildings, and named them *Pe ara deasa*, which meant ‘surrounding the fort [building]’, or, as they called it, *dis*. The word *dis* meant building, and the person who constructed it was thus known as *Disa*, which is in turn an equivalent for builder.

All governors of the cities within the land of Iran, or other cities of the empire of *Persia* outside the boundaries of the mainland were obliged to set up such gardens, as an example of which is the *Pardis* in the *Persepolis* referred to by *Xerxes* as he has mentioned the structures he has built. (The word *Pardis*, meaning the heaven, was arabicized to become *Ferdows*, and also changed to *Paradize* as entered other languages. The word heaven, or *Behesht* [*vahesht*] in Farsi, means the excellent life, and has been depicted as a beautiful, perfectly green garden). Also, in older dialects of Farsi, the word *Paliz* meant the same, as is mentioned in a poem by *Ferdowsi*:

“He henceforth headed for the paradise.”<sup>3</sup>

### **The creation of the Persian Garden**

Creation of a garden and its components and ornaments is the fruit of thoughts and experiences of generations, and reflects their approach to the nature. Persian gardens, the oldest evidence of creation of which dates back to 529 BC in *Pasargadae*, demonstrates generally modern features. However, some of the concepts employed, particularly the use of right angles and the connection established with the sacred area, are influenced by the historical concepts.

Various methods of garden designing have existed both in the ancient Egyptian Civilization and in Mesopotamia. The influence of Mesopotamian techniques and concepts is furthermore evident on the art and culture of Persia due to the close vicinity of the two civilizations, presence of the Elamids Civilization to the south of Persia, and the geographical similarities between the two civilizations of Persia and Mesopotamia.

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<sup>3</sup> Nasr, Tahereh (2005); "The Persian Garden in Transit Time", Pages: 23-25.

Also, common ethnical origins of the tribes living across the plateau of Iran and the residents of *Sindh* valley contributes to further possible influences on the concept of *Chahar Bagh*.<sup>4</sup>

Creating man made mounds in the art of garden making of the Mesopotamian and Elamids Civilizations, planting of holy trees along the rivers, and temples, which are marked on the clay tablets, illustrate the approach of people living in those civilizations towards the nature. *David Stronach* refers to such gardens as the prototype of gardens in the aforementioned civilizations.<sup>5</sup>

The use of *Chahar Taqi* [the structure which is open to the four directions] and geometrical quadripartite divisions in construction of belvederes in Persian Gardens may also have been inspired by geometrical motifs of Mesopotamia and *Sindh* valley Civilizations, which depict the paradise in a variety of forms.<sup>6</sup>



Fig 2-1. Aerial view of Royal Gardens in the world heritage site of Pasargadae  
Source: Research foundation of Parse-Pasargadae

<sup>4</sup> Massoudi, Abbas (2009); "Acquaintance with Iranian Gardens Bagh-e Shazdeh", Page: 37.

<sup>5</sup> Stronach, David (1989); "The Form of Royal Garden of Pasargadae, and its influence on other Persian Gardens", Page: 55

<sup>6</sup> Massoudi, Abbas (2009); "Acquaintance with Iranian Gardens Bagh-e Shazdeh", Page: 40.

David Stronach provides a conclusion concerning the scales of Achaemenids Gardens as compared to those of Mesopotamian Gardens, and the innovations employed by the Achaemenids.<sup>7</sup>

"It was once believed that the Achaemenids modeled their gardens after those of Mesopotamia. Recent studies, however, prove that this is only one small part of a much larger whole. *Cyrus the Great* has undoubtedly employed methods inherited from *Assyria* and *Babylon* in order to deliver political messages through the architecture of Royal Gardens. The great range of his conquests, however, seems to have paved the way for two periodic alterations in the architecture of the gardens. Firstly, his tendency to establish his capital far away from all hostile lands had probably been one of the many motives which led him to build his palaces in an area exceptionally bare of fortifications. Secondly, *Cyrus* gathered an interest in the use of stone, the techniques of which he had acquired following the conquest of *Lydia*. This led him to design and create water courses and ponds of carefully carved stone. All this resulted in creation of the Persian Garden with its total balance and fineness, and, above all, creation of the prototype of *Chahar Bagh*<sup>8</sup>, which was thus guaranteed to live long."<sup>9</sup>

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<sup>7</sup> Stronach, David (1989); "The Form of Royal Garden of Pasargadae, and its influence on other Persian Gardens", Page: 55

<sup>8</sup> The symbolic meaning of *Chahar Bagh*: The allegorical reference to *Jannat*, paradise, is manifest in the very introduction to the chapter on *Chahar Bagh*, where the creation of the world is described by *Haravi* as that of a garden in which the pavilions, trees and flowers represent the elements of the created nature. "And the building of a paradise of verses will be to the south facing north; and its heaven- like orchards will be erected with cy... he who built the nine palaces – planets and the twelve tower – months of the skies, and lightened and adorned its Ivan with sun and moon and erected the *Chahar Taq* (cross vault) of the high portico of the elements to the sky, thanks to his incomparable power, and painted and adorned it with the white of the morning and the red of the twilight. And embellished the garden of paradise whit tulips, gilded flowers and fruit bearing trees with grace and ornament; and exhaled the flowers and the colors of ripe fruits".

In the poem which follows *Haravi* invokes God as the Gardener of the world and the Architect of Time. "He who breeds the plant of man in the extension of the *Chahar Bagh* of creation". The garden of creation was a myth present in the *Iranian* cultural area since ancient times. According to *Zoroaster*, *Ahura Mazda*, God of light, had created the first couple of man and given him a marvelous garden to live in. this was surrounded by four rivers, irrigated by many channels and abundant with fruits. All creatures lived there in absolute perfection. But *Ahriman*, one of the spirits uncharged to keep lighten the garden let a torch to fall and was put out of paradise to become the Lord of darkness. Since then there has been the struggle between light and darkness. Under the effects of this conflict universe was divided in two, one celestial and the other worldly. Man who had taken part with *Ahriman* was also put out of the world on top, but *Ahura Mazda* directed him to the way of redemption by teaching him the art of building gardens, that is earthly paradises, which would be the repetition of the celestial one. he association between garden and paradises is obvious in such gardens named *Bagh-e Firdaws* (garden of paradise), *Bagh-e Hasht Behesht* (garden of eight paradises) or *Bagh-e Eram* (garden of paradise). The term *Chahar Bagh* is more subtly linked to the idea of paradise. We may recall that the Zoroastrian paradise, *vahishit*, was *deviden* into four graduated mansions: the domain of Good thought, good



As Elizabeth Moynihan mentions: in *Persia* and Mughal India, "basically, the plateau of Iran has no good conditions for construction of gardens. The area has little rainfall of 5-25cm per year. It is cold in winter, and hot and dry in summer, with fierce winds that sweep through the whole plateau. These conditions altogether make the area an inappropriate location for construction of gardens."<sup>10</sup>



Fig .2-2. Aerial view of *Bagh-e Shahzadeh-Mahan* (Source:The research center of Persian Garden, Kerman)

words, *Good Deeds*, and *Garotman*, the highest that of *Endless Light*. The four graduated terraces of the *Chahar Bagh* may therefore repeat this archetypal image and be related to the four terraces of paradise.(Alemi,Mahvash, *Chahar Bagh*,p.42, Environmental design, the garden as a city the city as a garden)

<sup>9</sup> Ibid, Pages: 63-64

<sup>10</sup> Moynihan, Elizabeth (1980 ph)

Thus, the whole ecologic area of the Persian Garden is artificially made, which is the distinctive feature of the inside and outside of the garden. Even the man-made ecological area, however, would need to be irrigated through certain water supplying systems (both decorative and functional); the trees are selected in such a way shades and benefit coasting by cooling the extreme temperature down at the same time, they also prevent the water from evaporation, and ultimately creating the *Chahar Bagh* as a principal elements (the mythical depiction of paradise that is supposed to bring peace of mind for the man).

Though initially manifested in creation of *Pasargadae*, Persian Garden has been developed with all the creativity linked to, and required for it to survive in the desert climate, such as the intelligent innovation of *Qanat*<sup>11</sup> system. This is evident in the majority of the nine gardens proposed in this dossier. Whatever is created within a Persian garden is also a manifestation of the *Iranians'* poetic approach toward the nature.

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<sup>11</sup> A *Qanat* (from Arabic: *قناة*) (Iran, Syria and Jordan), *Kariz* (or *Karez* from *Persian*: *کاريز*) (Iran, Afghanistan, Pakistan and Central Asia), derived from *Persian*: *کاهريز*, *Kahan* (from *Persian*: *کهن*), *Khettara* (Morocco); *Galeria* (Spain); *Falaj* (United Arab Emirates and Oman); *Kahn* (Baloch) or *Foggara/Fughara* (North Africa) is a water management system used to provide a reliable supply of water to human settlements and for irrigation in hot, arid and semi-arid climates. Alternative terms for *Qanats* in *Asia* and *North Africa* are *Kakuriz*, *Chin-avulz*, and *Mayun*. Common variant spellings/transliterations of *Qanat* in English include *Kanat*, *Khanat*, *Kunut*, *Kona*, *Konait*, *Ghanat*, *Ghundat*. Closely related to such structures is the *Turfan* water system in *China*. The technology is known to have developed in ancient Iran, and then spread to other cultures.

The value of a *Qanat* is directly related to the quality, volume and regularity of the water flow. Much of the population of Iran and other arid countries in *Asia* and *North Africa* historically depended upon the water from *Qanats*; the areas of population corresponded closely to the areas where *Qanats* are possible. Although a *Qanat* was expensive to construct, its long-term value to the community, and therefore to the group who invested in building and maintaining it, was substantial.

**Technical features:** *Qanats* are constructed as a series of well-like vertical shafts, connected by gently sloping tunnels. *Qanats* tap into subterranean water in a manner that efficiently delivers large quantities of water to the surface without need for pumping. The water drains relying on gravity, with the destination lower than the source, which is typically an upland aquifer. *Qanats* allow water to be transported over long distances in hot dry climates without losing a large proportion of the water to seepage and evaporation.

It is very common in the construction of a *Qanat* for the water source to be found below ground at the foot of a range of foothills of mountains, where the water table is closest to the surface. From this point, the slope of the *Qanat* is maintained closer to level than the surface above, until the water finally flows out of the *Qanat* above ground. To reach an aquifer *Qanats* must often be of extreme length.

*Qanats* are sometimes split into an underground distribution network of smaller canals called *Kariz*. Like *Qanats*, these smaller canals were below ground to avoid contamination. In some cases water from a *Qanat* is stored in a reservoir, typically storing night flow for daytime use. An *Ab Anbar* is an example of a traditional *Qanat* fed reservoir for drinking water in Persian antiquity.

The *Qanat* system has the advantage of being relatively immune to natural disasters (earthquakes, floods...) and human destruction in war. Further it is relatively insensitive to the levels of precipitation; a *Qanat* typically delivers a relatively constant flow with only gradual variations from wet to dry years. (Motiee H, Mcbean E, Semsar A, et al. (December 2006). "Assessment of the Contributions of Traditional *Qanats* in Sustainable Water Resources Management". *Journal of Water Resources Development*.



Fig 2-3. Aerial view of a Qanat passing under the grounds located near Yazd  
(source: Persian Garden a Reflection of Paradise, 2004)

### **The evolution of the Persian Garden concept**

The origin of the Persian Garden may date back as far as 4000 BC; the decorated pottery of that time displays the typical cross plan of the Persian Garden. The outline of *Cyrus the Great's* garden, built around 500 BCE, is still viewable today.

As mentioned earlier, the concept of Persian Garden, or *Paradise*, came to existence by creation of Pasargadae. Later, it lived and developed through the course of ages according to the time, location, beliefs, and cultural traditions.

From the time of the Achaemenids dynasty the idea of an earthly paradise spread through Persian literature and example to other cultures, both the Hellenistic gardens of the Seleucids and the *Ptolemies* in *Alexandria*. The *Avestan* word *Pairidaêza*, - Old Persian *Paridaida*-, *Median Paridaiza*- (walled-around, i.e., a walled garden), was transliterated into *Greek*

*Paradeisoi*, then rendered into the Latin *Paradisus*, and from there entered into European languages, e.g., French *Paradis*, German *Paradies*, and English *Paradise*. The word entered Semitic languages as well: *Akkadian Pardesu*, *Hebrew Pardes*, and Arabic *Ferdows*.

Persian influences extended to post-Alexander's Greece: around 350 BC there were gardens at the Academy of Athens, and *Theophrastus*, who wrote on botany, was supposed to have inherited a garden from *Aristotle*. Epicurus also had a garden where he walked and taught, and bequeathed it to *Hermarchus of Mytilene*<sup>12</sup>.

During the reign of the Sassanids (third to seventh century AC), and under the influence of Zoroastrianism, the presence of water in art grew increasingly important. This trend manifested itself in garden design with greater emphasis placed on fountains and ponds in gardens.

During the Arab occupation the aesthetic aspect of the garden increased in importance, overtaking the utility of the garden. During this time the aesthetic rules by which the garden is governed grew in importance. An example of this is the *Chahar Bagh*, a form of garden which attempts to emulate *Eden*, (the four principal elements of sky, earth, water, plant) representing the world.

The invasion of Persia by the Mongols in the 13<sup>th</sup> century saw a new emphasis on highly ornate structure within the garden, examples of which include tree peonies and chrysanthemums. The Mongol empire then carried a Persian Garden tradition to other parts of their empire (notably India).

Babur introduced the Persian Garden to India; the now unkempt ram *Bagh* garden in *Agra* was the first of many Persian Gardens he created. The Persian concept of an ideal, paradise-like garden is perfectly embodied in the *Taj Mahal*.

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<sup>12</sup> Khonsari, Mehdi, *The Persian Garden: Echoes of Paradise*. Mage Publishers, 1988



Fig. 2-4. Morphology *Bagh* in India



Fig. 2-5. Morphology *Bagh* in Iran



Fig .2-6. *Bagh-e Neshat*, Kashmir)



Fig .2-7. *Bagh-e Shahzadeh*, Mahan)

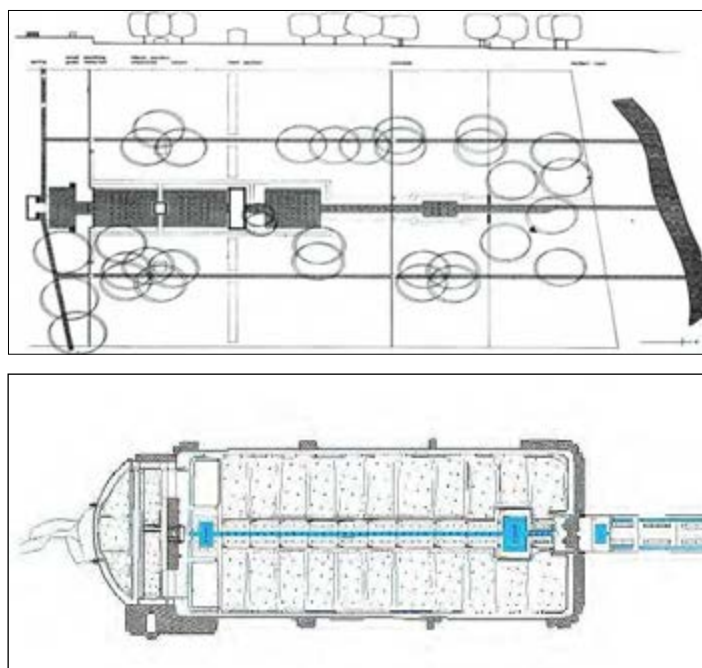


Fig.2-8. Morphology between gardens in Iran and Kashmir  
(*Bagh-e shahzadeh*, Mahan and *Bagh-e Neshat*, Kashmir- A.Masoudi,2009)

Though the idea of the Persian Garden was originally born in the heart of the desert lands, it has influenced other lands and other climates as well thanks to its great cultural and spiritual diffusion. For instance, it has been applied in construction of *Bagh-e Abbas Abad* in Behshahr in north of Iran, which is classified as a humid area as for climate. The same prototype has also been used in gardens of humid countries such as India, Pakistan, and Sri Lanka (like gardens of *Kashmir, Agra, Shalimar*, etc). The only notable difference is the function of trees where they have been used as the producers of shade to cool down the temperature and to prevent water from evaporating in Persian Garden, which are home to the concept, while they do not have such a function in more humid climates of the abovementioned countries.

As the Persian Garden chronologically precedes Islam, Holy *Quran*'s account of Paradise in its mundane form is indeed a description of the Persian Garden. Thus, the prototype of Persian Gardens has influenced gardens of Islamic era such as *Alhambra* in Spain. To have a comparative analysis between the Persian Gardens and European ones, Italian, French and English Gardens are chosen as the examples of two important styles of gardening in Europe.

These two types of gardens have had mutual influences on each other in a variety of ways. While Persian garden is the prototype of geometrical gardens, later in the reign of the Safavids and Qajars dynasties western impacts can be seen in the Persian gardens, especially in the choice of flowers and plants.

The Persian Paradise Garden is one of the of fundamental original garden types from which all the world's gardens derive, though in various combinations. This type of gardening goes back to the ancient empire of Achaemenids. It became the foundation of most gardening traditions of Islam, and later on of Europe. Examples of the paradise garden and its derivatives can be seen today in many of the historic gardens of Islamic and European countries.

Precise geometrical order, symmetry, axial open-ended continuation, and repetition were the outstanding characteristics of the Persian Garden. Unlike western gardens, geometry and symmetry in Persian gardens are not based on perspective and optic sciences, but on a very pure unity and integrity whose example is evident in *Chahar Bagh* pattern.



Fig. 2-9. Geometry of Persian Gardens, *Bagh-e Fin*

With regards to the main principles of the geometry of Persian Gardens, the whole garden is considered as the symbol of the world with a pool of life in the centre. The garden is divided into four quarters by the waterways as the main axis. Such pattern is called *Chahar Bagh*, which refers to the *Garden of Eden* that was watered by four rivers. This division is combined with a mystical love of flowers, sweet-scented trees, various colors, and the sense of eternal life. The combination is a calm retreat from the noisy and dusty outside world through unique purity.

This difference between the Persian and European Gardens is based on two distinct and different ideologies: one looks at earth and the other observes the sky. There is no perspective in the Iranian garden, as if the only point of view is to be found somewhere above. That is why, unlike European gardens, complicated patterns are absent.

Such Iranian geometry, which is also present in traditional Iranian painting, is based on the Iranians' divine beliefs. According to such beliefs, all creatures are equal in the eyes of *Allah*, and thus, distances are meaningless as *Allah* is Omnipresent. For this very same reason, there is no trace of perspective and optic principles in the Iranian visual arts and architecture, and all objects are depicted in equal sizes no matter whether they are near or far. Conceptually in the European gardens, however, man's experience of his environment and his point of view stands first.

### **The Persian Garden concept as an alive traditional culture**

In order to explain the importance of the preservation of the cultural tradition of the Persian Garden making, the historical backgrounds of the concepts of this tradition in relation with the nature should be mentioned:

According to the ancient Iranians' beliefs, God the Almighty created each of the significant beings on one certain day, and each day had its ceremony. Creation of plants was one important course of the Genesis. The *All-Seeds* tree first grew on earth, and then, two birds took its seeds and spread them all over the world, and this was how farms and gardens came to existence. Thus, the Iranians had a special ceremony to celebrate the creation of plants (*Bundahish*, translated by W. W. West, in a collection of Pahlavi scripts, London, 1880, pp.



99-100). Such a celebration continued to live in a variety of manifestations as a architectural and cultural tradition, and is embodied in Persian gardens.

The conversation between *Cyrus the Great* and *Lysander* (the conqueror of *Athens* and the commander of the *Spartans*) at the great garden [*Boostan*] of *Cyrus* in *Sard* (which was known as the *Paradise of Sard*, and was more recent than *Pasargadae*), is so interesting when he says:

“I have planted all trees here. I have measured the patches, and they have dug the pits following my lead. I can even show you the many trees I have planted in person”.<sup>13</sup>

The significance of the four sacred elements and the geometrical concepts of the Persian Garden are evident in this historical instant. Thus, Pasargadae could be considered as the materialization of this cultural tradition in the rule of the Achaemenids. Same concepts are evident in later eras, though in different forms. The great Roman historian of the reign of *Shapur II*, *Ammianus Marcellinus*, has mentioned a great garden near *Ctesiphon* in which they kept various types of plants and animals, with its painted building which had paintings of hunting scenes. Byzantine historians also give accounts of *Khosrow Parvez*'s great garden in *Dastgerd*, with all its lush plantation and diverse types of animals. All of these instances show that most of Iranian houses and palaces were attached to gardens. In the *Iranian* culture, cultivation of trees and construction of gardens have always been recommended as a key to enter the paradise and cutting or uprooting of trees has been considered to be ominous (as reported by Pope and Ackerman, p. 1427). This tradition has lived through to the rule of the Sassanid dynasty.

Later on, when the four holy elements (water, plants, Earth, and sky) are held in the highest regard by architects, the same concepts are employed, but in different forms. Thus, the central waterway and the irrigation system as a whole play the main role in design and utilization of the four principle elements.

On the other hand, greater emphasis is placed on the entrance by making the façades more and more elaborate insomuch as most travelers and explorers have noticed and mentioned the magnificence of architectural plans and ornaments of façades, which turns to establish a link

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<sup>13</sup> Jarir-r Tabari, Muhammad (400 AD); "Tabari History", Pages: 870-70.

between the inner and outer worlds, and thus, even more significant than the pavilion. Together with the Safavids *Chahar Baghs*, this cultural tradition continues to represent the four principle elements, to which *Heravi* has referred as spiritual and divine concepts in his *Irshad-oz Zirāat*<sup>14</sup>[a guide to cultivation]. The point to be noted is that the traditional design of Iranian garden is not based on four parts (as some may mistakenly assume), but the important issue is to take the four sacred elements into consideration. That is why many tracts of land are not in geometrical shapes. In fact, symmetry is only partial. That is, from a viewpoint of the onlookers on the porch, everything seems symmetrical, while it is not true from an aerial point of view. The basics of the tradition are visible in various gardens, though some structural elements have evolved through the course of history depending on requirements of the time and the place. For instance, the double-porch pavilion of Pasargadae changes into four-porch ones during the rule of Safavids and the Zands. However, the cultural tradition remains intact over the span of time in various forms and scales of urban design and architecture such as garden-cities, garden-houses, garden-castles, administrative gardens, cemetery-gardens, etc.

Despite being originally created in the heart of desert lands of Iran, the cultural tradition of Persian garden emerges in by far more lavish areas such as the north of Iran, Kashmir, and *Agra. Bagh-e Abas Abad* in Behshahr in the north of *Iran* provides a perfect example of similar approach where the lush nature might have influenced the order of the garden, but the garden remains with its geometrical order of *Chahar Bagh*, well-engineered design, pavilion and façade, and irrigation system, as it is in much drier areas.

More remarkable still, as Persian Gardens chronologically precedes Islam, *Quran's* account of Paradise in its mundane form is indeed a description of the Persian garden, and the well-doers are promised to enter such a Paradise:

“He has prepared for them Gardens in which streams flow, to abide therein forever; and that is the Great Achievement.” (*Al-Tawbah, verse 100*) [Holy *Quran*, translated by *Tahereh Saffar Zadeh*]

Also, Prophet *Mohammad* is reported to have narrated an account of the Heaven in his spiritual journey to the heavens, which is indeed a description of Persian Gardens.

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<sup>14</sup> Abunasr-e Heravi, Qaseme-bn-e Yousof, (AH 921/ AD 1515), *Irshad-oz Zirāat* (guide for horticultures), Moshiri, Mohammad, published by Tehran University, 1967, Tehran.

In the foreword of chapter 8 from his *Irshad-oz Zirāat*, Heravi mentions this account of the Persian Garden, and the one that compares it to the Heavens, which are all evidence of significance of water streams, tall, shady trees and fruiters, evergreen flowers, and the sky as a dome. All these elements are reflected in the pavilions and porches of Persian Gardens, and highlight the importance of the gates of *Paradise* (the entrances of the gardens).

"در بیابان نهال اشجار و گل وریاحین بسیاق باغبانی در چهار باغ کاشتن در برابر یکدیگر و عمارت جنت آیات بجانب جنوب و شمال خواهد بود و ریاض بساتین بهشت آئینش بعنایت حضرت الهی و فیض نامتناهی جلت آلائه و عمت نعمائه که بنای نه قصر و دروازه برج افلاک را بعماری کن فیکون برافراخت بشمسه مهر و ماه روی ایوانش را منور و مزین ساخت و چهارطاق، بلند رواق عناصر را بدستیاری قدرت بیچون سر بر افلاک بر افراشت و برنگ بیاض صبح و حمرة شفق ملون کرده بیاراست. و ریاض قدس را بلاله و گلهای زرنگار و اشجار میوه دار با صد لطافت و زیب، بنظارت و طراوت تمام پرداخت و گلستان انس را بگلهای همیشه بهار و الوان میوه های لطیف آبدار عیان گردانید، ایجاد و تکوین خواهد یافت."<sup>15</sup>

Such a symbolic interpretation of paradise in the Persian Gardens has influenced the lives of the Iranian inasmuch as it has also affected intangible heritage such as literature and arts (poetry, carpet weaving, miniature, etc).

Though mostly neglected, the relation between Persian Gardens and cities is one of the unique features of the Persian Garden in continuation of this cultural tradition.

Significance of the concepts of Iranian garden lies in provision of an environment suitable for receiving the inspirations of the spiritual world and reflect them in the mundane world.

Gardens have always been the prelude to development of villages and cities over the course of history in Iran. In fact, tracts of land were first cultivated and changed into gardens by the rich as they could afford the costs of cultivation such as digging of *Qanats*, fertilization of soil, cultivation of plants, and design and architecture of the garden. Isfahan, Shiraz, and Qazvin are examples of such development trends during the rule of the Safavids and Qajars.

<sup>15</sup> Abunasr-e Heravi, Qaseme-bn-e Yousof (1515AD); "Irshad-oz Zirāat", chapter 8.

Yet another significant point about the gardens and their role in urban development, particularly in arid lands, is their role in helping the area to become inhabitable and pleasant. They usually were constructed in the route of favorable winds which corresponded the courses of water in order to prevent the desert dust from the from penetrating the cities. Gardens of Shiraz, Isfahan, and Qazvin are perfect examples in this regard.

In the Iranian experience, the city is in fact the main street between the gardens (the four gardens/ *Chahar Bagh*), which turned into one urban element during the reign of the Safavids dynasty (gardens do exist in the cities, but in this approach the whole city turns into a garden). It is also during the rule of the Safavids that this element joins other urban features such as bazaars, plazas, *Jame'* mosques, and fortifications. Street does not function as a pathway only; rather, it *is* the destination, which functions as a sight of recreation and pastime.

Houses are designed based on the concept of the Persian Gardens in such a way as the importance of various parts of the house is marked by their view of the garden/flower bed. Alcove, which is considered to be the most important space in a house, is arranged along the axis of the garden.

Such an approach towards the Persian garden still keeps functioning in various aspects of modern architecture and urban designing in Iran, as it is evident in houses, tombs, schools, and other public or benevolent buildings. Newly constructed garden-houses and other contemporary gardens such as *Sa'ad Abad* and *Niyavaran* palaces are examples of this influence.

### **The Persian Garden features**

Born originally in desert climates, the Persian garden has, as a phenomenon, called for employment of the whole possible potentials available at the certain time and place. All elements required for the Persian Garden were designed and artificially made. Creating techniques of soil fertilization, irrigation systems (*Qanats*), adjustment of environmental elements such as creation of shade, plantations, or other aspects of creation of artificial ecological environment all call for creative engineering of resources in order to solve all problems concerning cultivation and irrigation.

The problems should however be resolved in such a way as the resulting artificial ecological environment is pleasant, for what is meant by creation of such gardens has not been to cultivate fruiters only, but also to create a charming and pleasant environment for refreshment. This was what made the process of construction of gardens somehow complicated as, for instance, when the issue of water was being considered, it was not all about irrigation; rather, aesthetic and ornamental goals needed to have been observed as well. Arrangements such as designing beautiful waterways, use of colors, tiles, and colorful paintings, fountains, designing and painting of the bottom of pools and waterways, use of natural reflection of sky in water were made to meet such goals. Each and every part of the Persian garden as one whole phenomenon functions in such a way as to display the distinction between this garden with the ones in other cultural backgrounds.



Fig. 2-10. Aerial photo of *Bagh-e Dolat Abad-Yazd*

The main indicators that mark the main differences between the Persian Garden and other types of gardens are:

1. The garden and its components
2. The surrounding environment,
3. The cultural setting<sup>16</sup>

The most significant difference is the settings in which the gardens have emerged, which is the climate of the areas located along the desert lands.

Such arid areas are in fact perfect for development of this type of landscapes. Since pre-Islamic eras, these lands have been the home and origin of most of dynasties, and it is thus of great importance to obtain better understanding and knowledge of the backgrounds and their influence on creative design and development of gardens.

The climates of these areas are generally defined with the following features:

- a. Dry and hot weather in summer; dry and cold weather in winter
- b. Low rainfall
- c. Low humidity
- d. Sparse vegetation
- e. Extreme variations in temperature day and night
- f. Winds that carry dust in those areas located in the desert lands or along them

What follows is the comparison of Persian Gardens, other oriental gardens such as Chinese ones, and western gardens:

### **The reference prototype of the Persian Garden**

First comes the account of the Persian garden given by *Heravi* due to its simultaneity with the zenith of garden making in the reign of the Safavids:

Chapter 8 of the 15<sup>th</sup> century epistle, *Irshad-oz Zirāat*, written by *Heravi*, gives an account of the structure of *Chahar Bagh* in which a water course lined with poplars and a border of flowers runs along the walls of the garden, and a main watercourse [*shahjuy*] brings the water to a pool in front of the building. There are passages on either side of the *shahjuy*, and

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<sup>16</sup> Massoudi, Abbas (2009); "Acquaintance with Iranian Gardens Bagh-e Shazdeh", Page: 44.

after that lay patches of clover, followed by patches of lawn at a slightly elevated level, all in complete symmetry. Each of the patches are planted with different fruits: the first one with pomegranate, the second with quince, the third with peach and nectarine, and the fourth with pear trees. After these, there are nine beds of flowers, and there are apple trees to the south of the building. Fig trees are planted to its north, which is sunny and protected against wind blow.

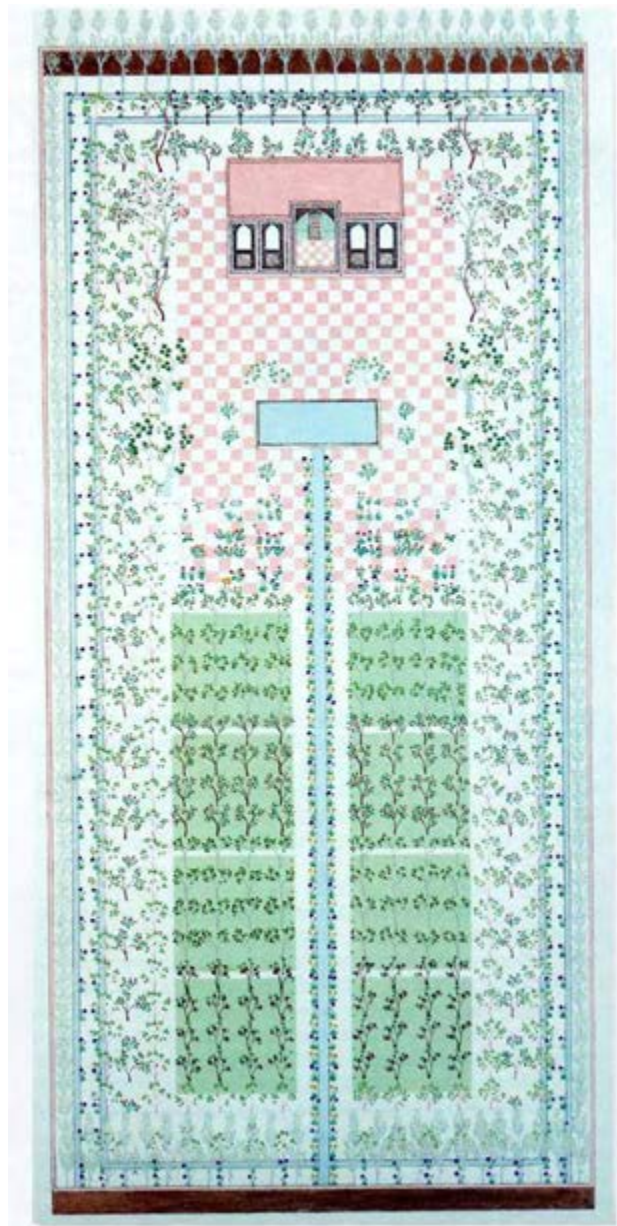


Fig .2-11. Graphical Reconstruction of The Chahar Bagh Type of Garden According to Heravi (Drawing by Mahvash Alemi)

### طرح چهار باغ و عمارت

طرح آن است که گرد چهار باغ را از پای دیوار سه ذرع گذاشته بعد از آن یک ذرع جوی سازند و کنار جوی که از جانب دیوار است، سفیددار سمرقندی نزدیک یکدیگرکارند که خوش نماست. و ناجو چندان لطافت و میمندی ندارد و جانب دیگر جوی که آن نیز حاشیه است، سوسن مناسب و سه نوع زرع دیگر غرق که راه رواست گذارند و بهد از آن یک ذرع دیگر جهت جوی و جانب غرق را بر حاشیه سوسن کاشته بر لوله پل که پنج ذرع از سفیدار دور است، زردآلوکارند. که باید که میان دو زردآلو هشت ذرع فاصله باشد و در میان آن گل سرخ و شفتالو مناسب است. و از زردآلویی که مذکور شد هر پنج ذرع را در میان فاصله گذاشته باز زرد آلو کاشته آلوانگور پیوند نمایند و بعد از آن میانه راست شاه جوی گذاشته، آب را بجوض که رو به عمارت است آورند، و کناره آن همیشه بهار و سوسن وخنجری باشد که خوش نماست و در هر دو کناره شاه جوی مذکور غرق جهت راه رو گذاشته بعد از آن جهت سه برگه جا ترتیب نمایند و هر جانب سه برگه در مرتبه علیا، چهار چمن جدا نموده، چمن اول انار چمن دوم بهی سوم شفتالو و شلیل چهارم امروود باشد، بعد از چهارمین باغچه ها ترتیب نموده باغچه اول بنفشه کبود و ایلچی سوسن و گل زیبای صبرگ و سورنجان. باغچه دوم زعفرانی و نرگس و گل زیبای رسمی. باغچه سوم لاله باغی و کوهی و درگوش و کاکلی و سوسن رسمی و صحرائی و سفید و شقایق رسمی و لاله کاکلی. باغچه چهارم یاسمن کبود و ارغوان زرد و بنفشه زرد و لاله دو طبقه و شب بوی باغچه پنجم گل مله و پنج برگ و ابرش و صابونی و آتشی و گل زرد و نسرين و بغدادی و قازقان، باغچه ششم گل رعنا و در میانه خشخاش. باغچه هفتم، یاسمن زرد و گل شش ماهه و زنبق و نیلوفر گل قرنفل و سوسن لیموئی و ختمی چینی. باغچه هشتم، ختمی خطائی و یاسمن سفید و شب بدوستان و چمن افروز. باغچه نهم ، لاله خطائی و بوستان افروز که هر دفعه با یکدیگر می‌رسند، کارند مناسب است.

در پایان باغچه ها از جانب شرقی و غربی نسترن و قرنیه آن در شمال حوض دو بوته نسترن دیگر بکارند.



حوض باید که بیست زرع یا آنچه مناسب دانند از عمارت دور باشد و گرد کرسی عمارت، خیار و توت بیدانه خواهد بود. و آنچه نزدیک بعمارت باشد از جانب شرقی آلبالو و غربی گیلان و در میان ارغوان سرخ کارند و بر جانب جنوب عمارت بر لوله پل که نسر است سیب کارند که اگر آفتاب باشد کرم ضایع می‌کند و انجیر را بر جانب شمال که آفتاب رو و پناه باد است کارند و پیوسته باید که به محافظت اشجار میوه‌دار و گل‌های ملون رزنگار مشغول باشند تا از نهال امید و گل ملون و سفید خط تمام و فایده مالا کلام یابند.

Accordingly the components of the Persian garden can be summarized as follows:

### **1. Walls**

It is the first on the list of parts of the Persian Garden. Similar and plain looks of the two sides of the wall, and use of clay material in construction of the walls are the indispensable features of the Persian Garden. Walls of Persian Gardens function not only as a marker of the boundaries of property, but also as a border between the outer, dry land, and the inner area with its shady, cooling components<sup>17</sup>, which is a reflection of paradise.

### **2. The surroundings**

The Persian garden is materialization of a whole (man-made ecological environment) born from nonexistence, and is tangibly different from its surroundings. This is completely different in western gardens, or other gardens allegedly related to the Iranian model. The following pictures further clarify this difference.<sup>18</sup> In the dry climate of desert land, creating a garden is in fact simulated arrangement of plants by man. Considering the extremely limited water sources, the area in which cultivation of plants is possible is marked and enclosed by

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<sup>17</sup> Massoudi, Abbas (2009); "Acquaintance with Iranian Gardens Bagh-e Shazdeh", Page: 114.

<sup>18</sup> Ibid, Pages: 101-102.

walls, so as to make it distinguishable from the surroundings, and ready for a certain type of creation.

As creation of a garden in such climate is facilitated with difficulty, and even preparation of fertile soil is not easy, it results in formation of one artificial ecological environment distinguishable from its surrounding.



Fig .2-12. Comparison between Persian and European Gardens- A. Masoudi,2009

### **3. Water**

It is the main reason why the Persian Garden come to existence. So dry as the overall climate of Iran is, formation of a green area without water is not even conceivable. It is water that defines the existence of all concepts and components of the Persian Garden, as it is present in all stages of its formation both in functional and ornamental forms:

- Functional use of water

To Water was supplied to the plants. Due to limited resources, it was stored in tanks, and was used for irrigation at certain intervals. Straight and geometrically shaped waterways were the main means of so doing. Drowning was yet another irrigation scheme in which all plants of a certain patch were watered by drowning of its whole area. There must be so much water as to irrigate the whole patch before it is evaporated or absorbed.

- Ornamental use of water

Water is also used for ornamentation in the reference prototype. In *Pasargadae*, which is considered to be the oldest example of the Persian Garden, there were two sources of water: one for irrigation, and the other for ornamental purposes. Thus, there existed two different water supply networks. Ornamental use of water is evident in pools, fountains, and waterways in Persian gardens. Significance of ornamental function of water is also highlighted in other cultural sources, such as miniatures.

#### **a. Fountains**

Fountain is the element which is used more frequently as an example of revelation, and in fact as its initial point. Though in more recent examples both inside Iran and outside, there

are more and more fountains, it is evident from paintings that there was only one fountain in the major pool, which somehow represented a water spring.

In the arid and rainless climate of Iran, water functioned as the origin of the gardens in three rather different forms: spring, *Qanat*, and brook or river.

The source of water in the gardens built based on the first two forms was represented in the form of water fountains in the main pool.

In the third form, a large number of fountains and their high rise were considered as notable features.

## **b. Pool**

Another form used to present ornamental function of water was in pools, though they have also functioned as water tanks as well. The first pool was always of greater importance as the primary source of water as compared to other ones. There was usually a square-shaped or rectangular pool right in front of the main pavilion. Wherever the ornamental function of the pool was more important, it was made shallower.

## **Waterway**

As mentioned by *Heravi*, the most important element taken into consideration in design of the garden had been the main waterway [known as *shahjuy*] through which water flowed into smaller, minor brooks directly from the pool. Such brooks were both ornamental and functional. Waterfalls and fountains were made wherever the natural slope allowed so to make the water course more interesting. The main waterways were lined by shady trees in order to maximize the functionality of water in both mythological and ornamental aspects.

Although waterfalls, fountains, and various types of pools were of originally ornamental function, they also worked to increase the evaporation, and consequently to make the garden cooler and more pleasant.

#### **4. Vegetation**

What is in fact considered to be the *raison d'être* of the gardens is their vegetation, which includes the range of various trees, flowers, and plants cultivated in them. Arrangement of plants is the most fundamental basis of garden design. As one indispensable part of the whole entity known as a garden, the vegetation is known by its variety of trees, flowers, and other plants of diverse types and their diverse functions.

Generally, vegetation of any given Persian Garden comprises trees, shrubs and bushes (with or without flowers), and lawn.

Trees are also divided into two groups of evergreen and deciduous. Though, as mentioned in *Heravi's Irshād-oz Zirāat*, the hierarchy of plantations, types, uses, and ways of caring for the trees are precisely mentioned, variations may be noticed based on the typology and the location of gardens.

Presence of trees in the Persian Garden goes beyond their main function in the vegetation, and reaches a mythical extent. Evergreen trees like cedar, which are depicted in the characters of the Persepolis, are considered to be symbols of eternal and sacred life as well, while on the other hand, deciduous trees like pine tree are representations of the afterlife. Yet another categorization of trees puts them into two classes of fruiters and umbrageous ones.

Other types of flowers and ornamental plants with their mythological concepts, plantation hierarchies, and conditions of preservation which play a significant role in the overall order of the garden, are elaborately described in *Heravi's* account.

#### **5. Shades**

Shade is the greatest importance among other components of Persian Gardens due to the arid and rainless climate as it can work to make the environment pleasant, and protect it from the intense sunlight.

This function has more or less lost its importance in the journey of the prototype of the Persian Garden to more humid lands such as India and Pakistan. In its land of origin,

however, it has also functioned positively in reduction of the extreme temperatures, particularly as water helps with the increase of humidity. The two elements have joined forces to make the environment of the Persian Garden as charming and pleasant as it is.

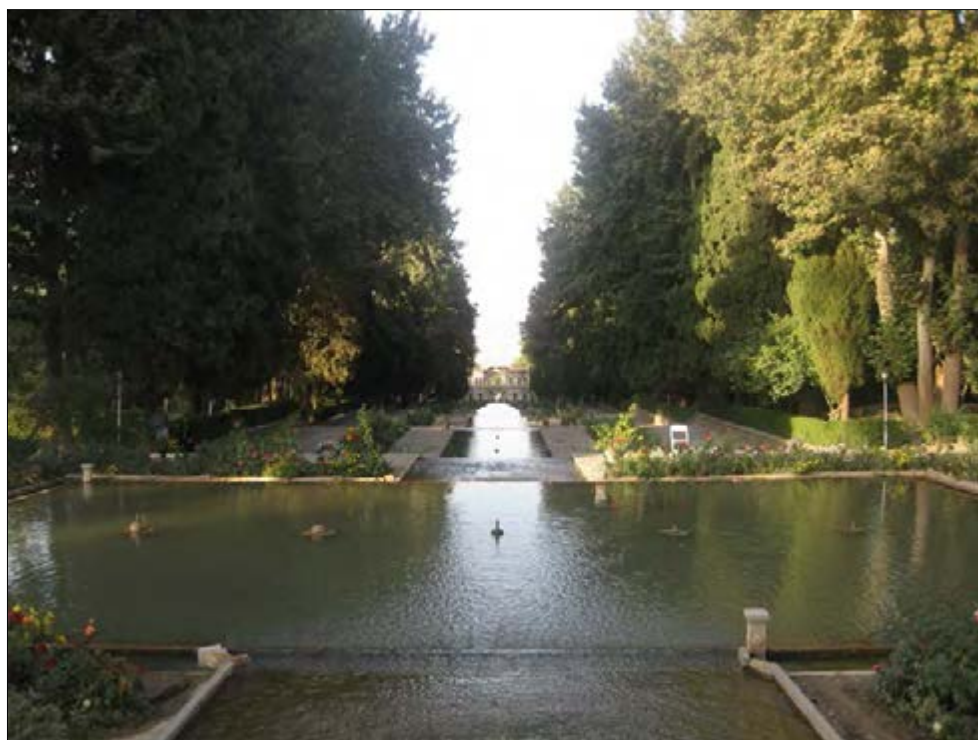
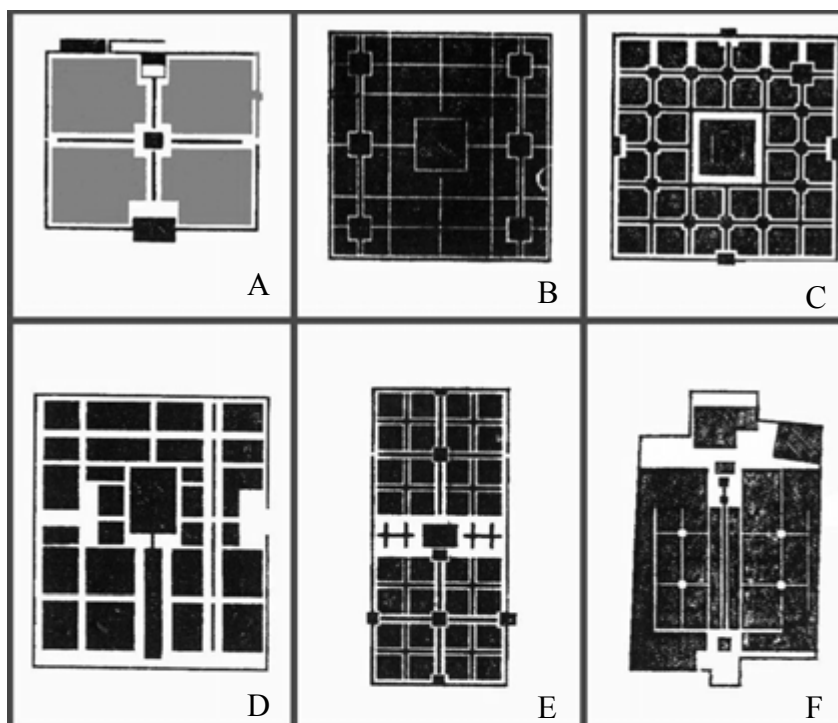


Fig .2-13. *Bagh-e Shahzadeh - Mahan*



## 6. Geometry and viewpoint

What is generally mentioned as the most prominent feature of the Iranian garden is the geometry, which dominates its design. Orientalists have frequently referred to quadripartite plan of Persian gardens, or noted the symmetry of all parts of it, as *Petruccioli* even refers to highlighting and maximizing of the role of geometry in his analysis of the function of Persian garden. What is actually meant by symmetry in Persian gardens, however, is in fact the emphasis placed on the visual symmetry in the position and viewpoint of the onlooker from certain spots of the place (such as the porches of the pavilions or the façade).



Also, what is meant by *Chahar Bagh* [the four-folded garden plan or the four gardens] is the universal notion, which refers to the four principle elements of Earth, sky, water, and plant and their creator, God. Thus, the idea of geometry in the Persian garden has a mythical function, and serves to reflect the cosmos order of the world in the form garden as the Paradise on Earth. Moreover, geometry and symmetry is defined by the position and viewpoint of the observer, and the plan is thus not completely symmetrical in the overall aerial view. This is in fact the remedial approach of the Iranian garden design for those tracts of land without a certain regular geometrical shape or various topographies.

In fact, geometry is defined to be the outlines of the plan of a given garden, and the waterways and pools are supposed to be the initial axes in such a plan, and the pathways made of rows of umbrageous trees and flowerbeds are next as for importance.

Elevations are also among the elements with significant roles in the plan of some geometric gardens with varying topographical features; however, the role of pools and the network of waterways remains prominent even in such plans.

Taking into consideration its historical background and its particular pattern, the Persian garden is a basic prototype and a prominent example of the collaboration of man and nature in creating a special landscape in the context of human history. Based on the descriptions of historians, analytical studies of the dossier, use of right angles in the design, and other features, it can be introduced as the prototype of western gardens, just as Chinese Gardens are

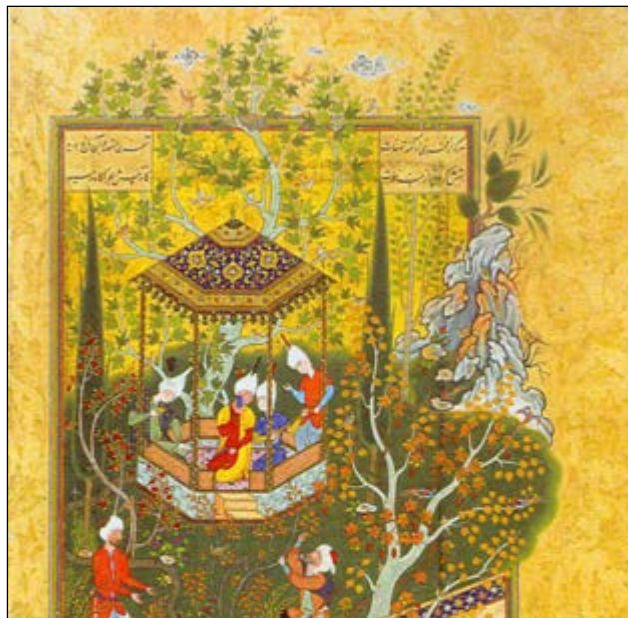


known to be the prototype of asymmetrical gardens. As an ancient prototype, the Iranian garden has fortunately sustained its original concepts which were based on a spiritual insight.'

### **The Persian Garden in art and literature**

The Persian Garden has been directly associated with many cultural developments, reflected in literature, poetry, carpets, miniatures, music, architecture decorations, etc.

The Persian garden has been in direct, tangible connection with the events, traditions, beliefs, and artistic and literary masterpieces of the Iranians. It has been considered to be materialization of poetic spirit and joyful life in the glorious history of Iranian literature. Poetical spirit is in fact an interwoven characteristic of all Iranians, and the Iranian scientists, architects, and craftsmen are thus all poets. They thought of infinity, and considered it in their interpretations, designs, and constructions. When an Iranian artist designed a carpet, it was in fact as if he composed its poem. It was also true about the designs of Iranian traditional architects. Thus, the Persian Garden can be defined as a lyric made of terms such as water, wisdom, plants, and light. This is why there are countless examples of praise of gardens in both Persian verse and poetry. *Avesta*, the holy book of the *Zoroastrians*, has placed great emphasis on the sanctity of inhabitation of places, cultivation of plants, and construction of gardens. Like so many other holy books, in *Quran*, too, Paradise is described as a garden. As the Persian Garden is defined based on spiritual insights and symbolic expressions before Islam, the report provided in *Quran* from Paradise corresponds to the description of one such garden. This has been of so great influence in the spiritual life of the Iranians as other artistic genres such as poetry and literature, carpet, miniature, music, and architectural decorations also reflect it.



Such influence on the literature goes so far as the names of numerous cities and villages are a combination of the word *Bagh* [garden], and this tradition travels beyond the borders of Iran, into its neighboring states such as Iraq. For instance, in the beginning of the rule of the *Abbasid* caliphs, the city of *Baqdad* was founded by *Mansour*, the *Abbasid* caliph in the year 145 AH, in the former location of an Iranian village named *Baq Dād* or *Baq Dād*, 32km to the northwest of *Ctesiphon* at the center of the Sassanids civilization, where there still stood the remains of Sassanid garden-palaces.<sup>19</sup>

In the reign of the *Abbasids*, taking *esparqam* [sweet basil]<sup>20</sup> as a gift was commonly popular. Even the pleasant tradition of taking flowers and fruits for the patients was made in conformity with older Iranian traditions.<sup>21</sup>

Also, Iranian notions of flowers, fruits, and other plants entered Arabic literature through Iranian Arabic-speaking poets. Watson mentions such notions which grew widely common in the 9<sup>th</sup> century AD in *Andalucía*, and reached their zenith in the 11<sup>th</sup> century.<sup>22</sup>

In the Iranian culture, cultivation of trees and construction of gardens have always been recommended as a key to enter the paradise and cutting or uprooting of trees has been considered to be ominous, as it goes in the famous Farsi proverb: “*who he cuts a tree would live short.*”

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<sup>19</sup> Jarir-r Tabari, Muhammad (400 AD); "Tabari History", Page: 611.

<sup>20</sup> Iranians referred to any well-scented plant, herb, or fruit as *esparqam*, though it originally means sweet basil.

<sup>21</sup> Istakhri, Ishaq Ibrahim ibn Muhammad (1325); "Masālik va Mamālik", Page: 331.

<sup>22</sup> Watson, Andrew M (1984); "Agricultural innovation in the early Islamic world: The diffusion of crops and farming techniques", Page: 631.

This same great interest is also evident in the choice of names of Iranian songs and pieces of music during the rule of the Sassanids: “*the pleasant garden [Shirin’s garden?]*”, “*Shahryar’s [the king’s] garden*”, “*Ardeshir’s garden*”, “*Bagh-e Siyawooshan [Siyawooshan garden]*”, “*path of flowers*”, “*the triple cedar*”, and “*the garden of Nowrooz*” are known as the old musical sets of ancient Iran.

This same interest and reverence is also reflected in the Iranian literature, where a major part of verses and poems are dedicated to descriptions and praises of gardens.

Description of gardens is evident in works of poets such as *Ferdowsi*, *Manuchehri*, and *Nezami* with their portrayal and epic poems. The spiritual concept of garden is so tangible for the minds of the Iranians that the major parts of literary works of the prominent poets are linked to depictions of gardens. More significant still, in *Ferdowsi’s Shah Nameh* the whole land of Iran is referred to as one large garden:

“That Iran is like a spring garden

Always blooming and flourishing.

It is always full of daffodils, pomegranates, apples, and quinces,

Even when there is nothing in the melon beds...”<sup>23</sup>

Metaphorical depiction of gardens is also evident in works of more recent poets such as *Khayyam*, *Sa’adi*, and *Hafez*. *Sa’adi* has named two of his poetry books as *Golestan* and *Boostan*, which are indeed other terms to refer to Iranian garden.

Patterns and themes of gardens, and particularly sacred trees such as cedar, have always been popular with Iranians for tile works, plaster works, and stone reliefs or carvings. Patterns of cedars at the Persepolis and the symbolic expression of the holy place are both examples of significance of garden in the Iranian experience.

Significance of the concepts of the Persian Garden lies in provision of an environment suitable for reflecting on things, discussion, and composing poems, where one can receive the inspirations of the spiritual world and reflect them in the mundane world. This is clearly evident in most famous Iranian miniatures, examples of which are included below. There might be only few Iranian miniaturists who have not portrayed poetic or mystic feasts in

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<sup>23</sup> Joule, Mole (1966); "Shahnameh".

Persian gardens as a representation of the Paradise on Earth. Such tradition in illustration and painting has even been applied in illustration of manuscripts. The most obvious example, however, is found in the patterns of Iranian carpets insomuch as most carpets are clear portrays of gardens and plants, and some are even obvious depictions of the *Chahar Bagh* pattern.

Thus, the tradition of gardens and garden design in Iran with its model and concepts has significantly influenced other cultural elements, insomuch as it has resulted in parallel development of gardens and such elements, which still live as a vividly present and influential Iranian tradition.

خوشتر زینش و صحبت و باغ و بهار چیت	ساقی کجاست که سبب انتظار چیت
هر وقت خوش که دست بد منتقم شمار	کس را وقت نیست که انجام کار چیت
پیوند عسبرت به موفیت هوش دار	غمخوار خویش باش غم روزگار چیت
منی آب زندگی و روضه ارم	جز طرف جویارومی خوشگوار چیت
مسور دست برد و چو از یک قیلید اند	مادل به شوه که دهیم خستمار چیت
راز درون پرده چه داند فلک نموش	ای مدعی نزاع تو با پرده دار چیت
سود و خطای بنده کرش اعتبار نیست	منی صفو و رحمت آمر ز کار چیت

زاهد شراب کوثر و حافظ پایال خواست  
تا در میانه خواست که کرد کار چیت



More pleasant than the pleasure and the enjoyment of the garden and the spring is what?  
Where is the Saki? Say: "The cause of our waiting is what?"  
Every pleasant moment that appeareth, reckon plunder;  
Delay is to none. For the end of work is what?  
The fetter of life is bound by a single hair: keep sense:  
Be thy own grief-devourer. Time's grief is what?  
The meaning of the Water-of-Life and the garden of Eram,  
Save the bank of the rivulet and the wine pleasant-tasting is what?  
The austere one and the intoxicated one both are of one family:  
To whose glance, shall we give our heart? choice is what?  
The secret within the screen, what knoweth the silent sky?  
O pretender! thy contention with the screen-holder is what?

### Gardens in Architectural Decorations

Like other branches of Persian art, the Persian Garden had also its influence upon decorations especially Persian architectural decorations.

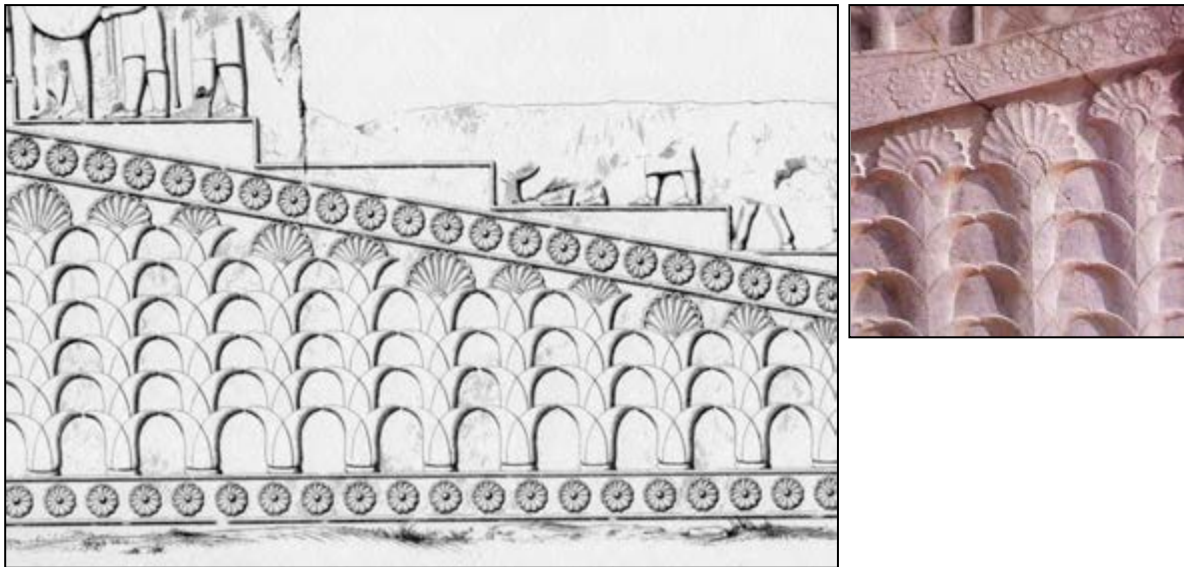


Fig. 2-18. Patterns of cedars, palm trees and twelve petal flower upon Apadana Palace Stairway.



Fig. 2-19. Patterns of Apadana Palace Stairway

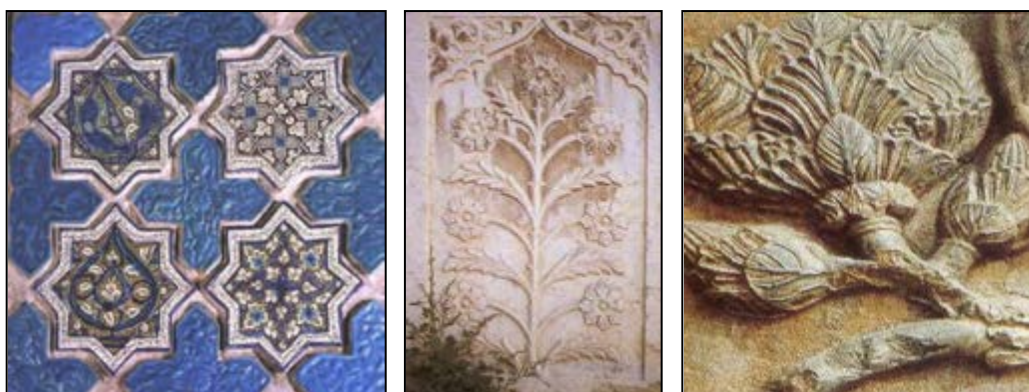


Fig. 2-20. Part of embossed flowers of the Life Tree in Taq-e Bostan



Fig. 2-21. Garden decorations of Moshir Mosque of Shiraz



Fig. 2-22. Tile-work of Tekiyeh Moaven-al Molk, Kermanshah



Fig. 2-23. Flowerpot with Life Tree pattern: 5<sup>th</sup> century AH lunar  
Source: *The Persian Garden: echoes of paradise*.



Fig. 2-24. Filigree Cover / Safavid Period , Source: *The Persian Garden: echoes of paradise*.

**Painting**



Fig .2-25. Miniature, Left: Shahnameh; Right: Khavarnameh, Sultan Mohammad Tabrizi

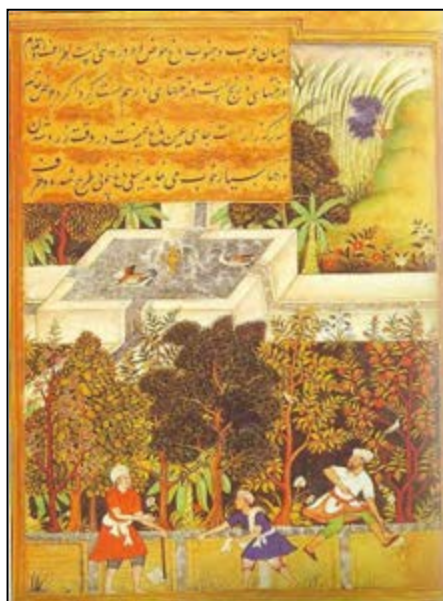


Fig. 2-26. Gardens in Miniature Works

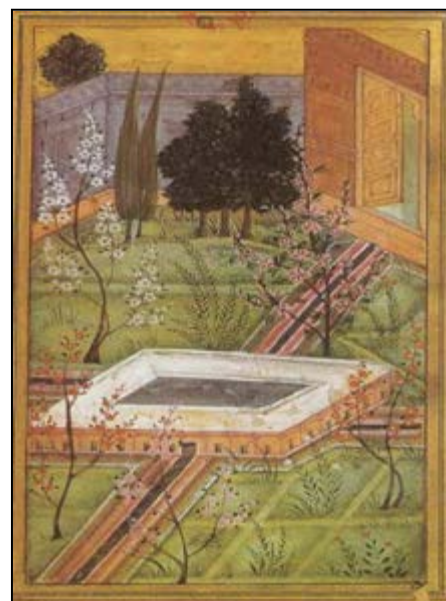


Fig. 2-27. A Miniature of a *Chahar Bagh*  
Source: Shahnameh book



Carpet



Fig. 2-28. Carpet with a tree picture



Fig. 2-29. Multiple *Chahar Bagh* units in a late 18<sup>th</sup> century northwest Persian (Kurdish) Garden carpet. Islamic Art Museum, Berlin.

## 2.a.2. Description of nominated properties

### *Ancient Garden of Pasargadae*

#### 1-Introduction

"...O man, whoever you are and wherever you come from, for I know you will come, I am *Cyrus* who won the Persians their empire. Do not therefore grudge me this little earth that covers my body..."

Construction of *Pasargadae* as the first Imperial capital of Iran is regarded as the most important evidence for the birth and rapid growth of a new world power in ancient times. The garden and complex of *Pasargadae* buildings were the symbol and sample of *Cyrus*' wish to announce the founding of his grand kingdom. Moreover, they served as the primary manifestation of the art of combining various architectural features belonging to ancient civilizations which simultaneously enjoyed particular and unique characteristics of the Achaemenians art. (In the words of *David Stronach*: *Pasargadae* serves as a mirror to reflect artistic activities at the start of this kingdom.) (WH dossiers 2004)

One of the particular characteristics of this complex is its Royal Garden (*Bagh-e Shahi*) as well as the palace ensemble, In *Pasargadae*; the Persian Garden is fully manifested with its whole features and main architectural features. Among features that make the garden an outstanding prototype for Persian landscape gardening are: consideration of the four holy features in Zoroastrian religion (Water, Wind, Soil and Fire); their conceptual usage in architectural structures; geometrical pattern of Royal Garden together with its pavilions and stone water canals in the grand garden of *Pasargadae*; optimal water distribution and division within the garden and palaces ensemble and blending architectural features and structures with nature. In other words, *Ancient Garden of Pasargadae* and the palace ensemble related to it are a masterpiece of creativity and artistic originality of Iranian artists who utilized the progressive art of other nations regarding Garden-City planning by presenting first examples of *Chahar Bagh*. *Chahar Bagh* (four gardens) model was repeatedly adopted later in Safavids and Indian Mongol architecture.



Fig. 2-30 Aerial photo/ private palace and royal garden,

## Location of Geographical

**1a. Country (and State Party if different):** IRAN

**1b. State of province or region:** FARS

**1c. Name of Property:** PASARGADAE (*Pasargad*)

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 05 ° 30' 10"; N: 30 ° 0' 10"

*Pasargadae* or *Morghab* plain is a high plain located northwest of Fars province at the foot of hills and mountains branched off *Zagros* mountain chain. It has a rectangular shape with a width of 10-12km in the north and a length of about 25km in east and west. Its lower section (southwest) ends in a strait with a length of 12km and a width of 200-500m which is called *Tang-e Bolaghi*.<sup>24</sup> This strait connects *Pasargadae* to *Sivands* plain in the shortest distance possible.<sup>25</sup>



Fig. 2-31. Location and access routes

<sup>24</sup> A strait located south of *Pasargadae* plain in which a water spring runs. Because “strait” in Turkish language is called *Bolak*, its name is *Bolaki* or *Bolaghi*. (*Pasargadae*: Sami, Ali, 9).

<sup>25</sup> Formerly, a road called *Rah-e-Shahi* (Royal Road) linked *Pasargadae* to *Persepolis* and *Susa*. Traces of this road have been found by *Herzfeld* and others in *Morghab Plain* (*Dasht-e Khorram*). The road entered *Pasargadae* region from north and after crossing west of *Tol-e Takht* extended as far as *Cyrus* tomb and finally reached *Tang-e Bolaghi*. Later the Royal Road turned eastwards so that the *Isfahan-Shiraz* road from north extended to a south-southeastern direction and after passing by east of *Polvar* river at a distance of two or three kilometers, reached *Tang-e Bolaghi* in the south east. From the middle of the Royal Road, a public road branched off which reached the village of *Madar-e Soleyman* (*Morghab*) now known as *Pasargadae* and after crossing a new bridge went directly into *Cyrus* tomb then turned toward north and east and circled other monuments.

*Morghab Plain* or *Pasargadae Plain* is irrigated by *Polvar* river which originates thirty kilometers northwest of *Pasargadae* near a village formerly called *Porvab*. The river crosses *Morghab Plain* in a north to south direction and after going through *Bolaghi Strait* reaches *Saadat-shahr* and *Sivand Plain*. Then it joins *Kor River* fifteen kilometers west of *Persepolis* and further down after crossing *Marvdasht* and *Band-e Amir* flows into *Bakhtegan Lake* near *Neyriz*.<sup>26</sup>

*Pasargadae* historical complex is located at a distance of 138km from Shiraz, Fars province and three kilometers off the Shiraz-Abadeh roadway and 85km north of *Marvdasht County*. The complex is situated in *Morghab* region which is one of the dependencies of *Pasargadae County*, *Pasargadae* district, *Madar-e Soleyman* village. *Morghab Plain* has an altitude of about 1200m above sea level and an approximate area of 15by12 square kilometers. Distance between *Pasargadae* and *Persepolis* is 32km by air but its winding roadway is about 83 kilometers long. When approaching from *Dehbeed* in the north which is arid and treeless to the green and fertile plain of *Pasargadae* or *Morghab Plain*, the climate change is quite evident because we are confronted with a flat terrain full of cedar and willow trees which proves its abundant water resources.<sup>27</sup>

According to archeological investigations conducted, the cultural domain of *Pasargadae* was not limited to *Pasargadae County* but it is hard to define its limits. In fact, historical monuments are generally scattered all over an area extending from *Khorrambeed County* in the north to *Sivand* in the south and from *Arsanjan* in the east to *Eghlid* in the west. For example in the vicinity of *Khorrambeed County*, six Achaemenian dams have been identified by The Foundation experts which formerly delivered water to *Pasargadae* basin and controlled its seasonal currents.<sup>28</sup>

Based on existing records, an area of more than fifteen thousand hectares comprises the core- and buffer zones grade 1, 2 and 3 of the complex. Any agricultural or industrial activity

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<sup>26</sup> Thanks to *Polvar River*, *Pasargadae Plain* has always been a fertile plain suitable for habitation. Apparently, during the rule of Achaemenids it was called *Median River* because the Greek had given the name *Medus (medos)* River to it.

<sup>27</sup> Shahpur Shahbazi, A. (2000); "Comprehensive Guide of Pasargadae ...", Pages: 19-22

<sup>28</sup> Karami, Hamidreza (2006); "The Achaemenian Dams, Tang-e Hana, Pasargadae", Archive center of Pasargadae Research Foundation

within the area should take place under the supervision of experts from Parse-Pasargadae Research Foundation and Fars Province Cultural Heritage Organization.

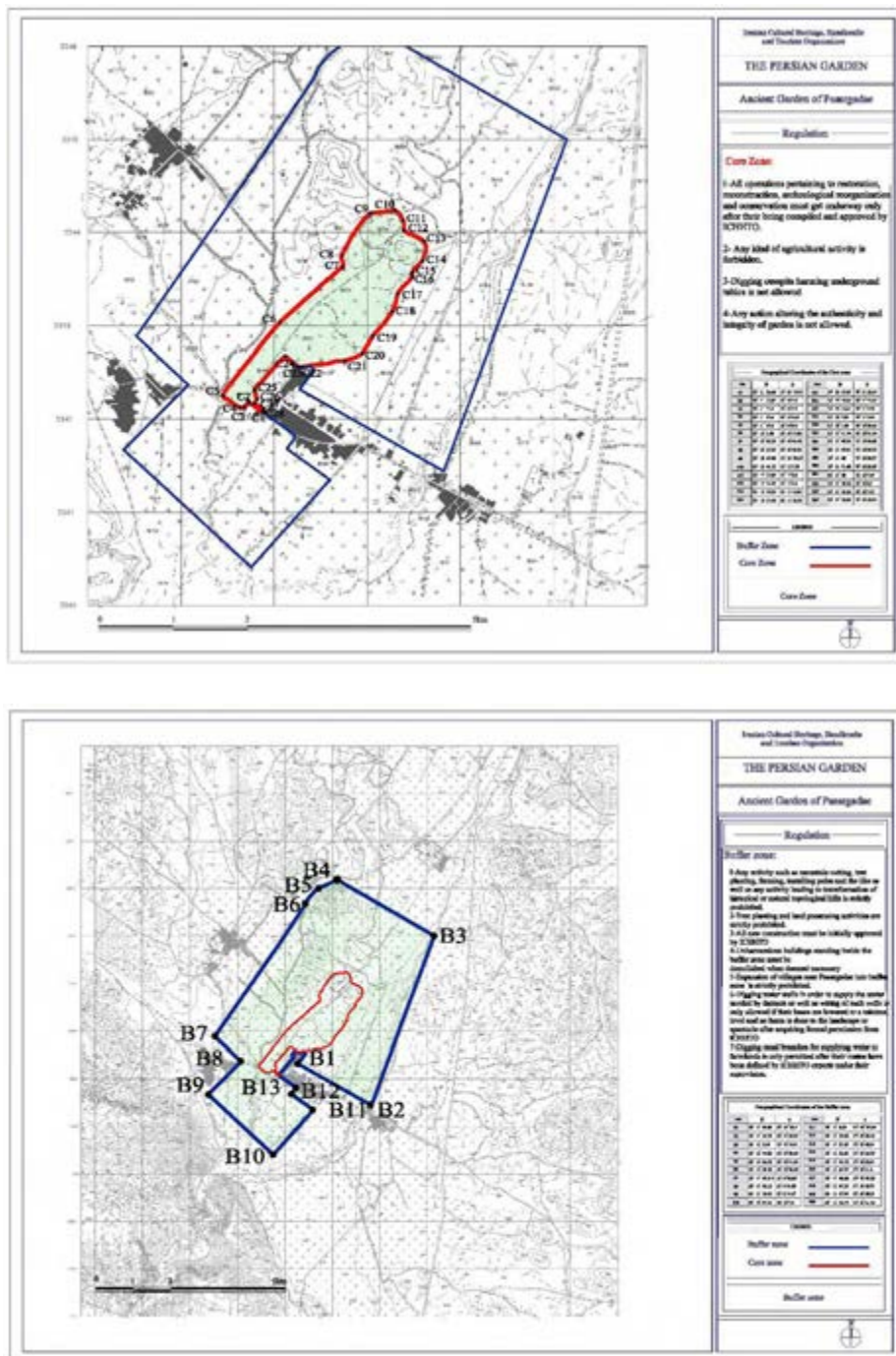


Fig. 2-32. Map of core and buffer zones of Pasargadae World Heritage Site/ core zone and buffer zones grade one, two and three of the complex  
Source: Pasargadae Research Foundation archives

The historical site has been registered in 24<sup>th</sup> *Shahrivar* 1310 solar AH as number 19 and has been enlisted as a world heritage site under the title of *Pasargadae* no.1106 in July 2004. It is the fifth Iranian site which is included in the list.

*Pasargadae*, Islamic Republic of Iran, was inscribed on the UNESCO World Heritage List in 2004 on the basis of cultural criteria (I), (II), (III) and (IV):

**Criterion (I):** *Pasargadae* is the first outstanding expression of the royal Achaemenids architecture.

**Criterion (II):** The dynastic capital of *Pasargadae* was built by *Cyrus the Great* with a contribution by different peoples of the empire created by him. It became a fundamental phase in the evolution of the classic Persian art and architecture.

**Criterion (III):** The archaeological site of *Pasargadae* with its palaces, gardens, and the tomb of the founder of the dynasty, *Cyrus the Great*, represents an exceptional testimony to the Achaemenids civilization in *Persia*.

**Criterion (IV):** The "Four Gardens" type of royal ensemble, which was created in *Pasargadae*, became a prototype for western Asia architecture and design.

World Heritage Property number: 1106.

Now a day, *Bagh-e Shahi* in *Pasargadae* world heritage site includes an ensemble of palaces and pavilions together with their stone and mud canals from which not many traces remain. As mentioned before, the ensemble is regarded as an outstanding sample of blending architectural features with nature. Moreover, it serves as a model for later periods concerning: the role of water circulation and the manner of its division in the garden and around palaces, the geometrical pattern used in the architectural structure and its garden-making style.

The total area of the Garden is eight hectares which is comprised: the Private Palace (Place P) with Watercourses, the *Audience Palace* (Place S), the gate house (Place R) which has a *Winged Man* carved on its surviving doorjamb, pavilion A in the east of the garden and



Fig. 2-33. Monument registration certificate in world heritage list.

pavilion B in its west (names applied in *Stronach* book), and also a bridge that called *Shahi* (royal) bridge.



Fig. 2- 34. Introduction Plan for monuments inside Pasargadae world heritage site

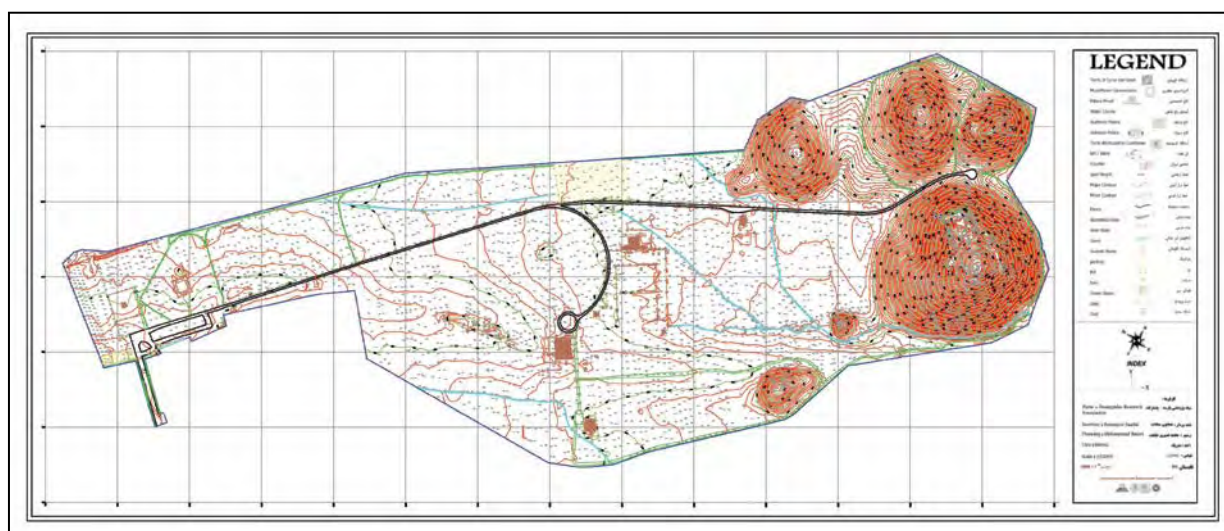


Fig. 2-35. Site Plan  
Source: Pasargadae Research Foundation Archives

### Gate house or palace "R" and the winged figure

This is the remains of a palace considered as *Pasargadae* gate, which was located in the far end of palace ensemble at a distance of 200m southeast of the audience palace. It is renowned for its impression of a *Winged Man* carved upon the stone pier of its northwestern portal which is the most complete image of its kind still remaining in *Pasargadae*.<sup>1</sup>

The palace had a rectangular shaped plan with a length and width of 28/50 by 25/50m and its hall was composed of two rows of quadruplet high columns and four entrances among which the northeastern and northwestern ones were main gates and the other two were side gates. Main gates had a height of about nine meters, a width of 3.20m and a thickness of 4.50m.

The gate house palace was a magnificent hall with an area of 542 square meters paved with well carved, white, marble boulders which were removed and taken later. Pedestals were double cubes a height of 160cm and a base area of 2 by 2m. They were made of black stones with an overlay of well-scraped but simple black stone torus. Column slips were put upon them like simple, high cylinders.

Building characteristics show that the inner height of the hall was 16m with capitals of double headed bulls facing the main portal. Hall walls were very thick with about 70cm white stone plinths at the interior and multi-stepped, wide half-piers at the exterior. Portal floor had been covered by well-scraped black stone with piers made of *Marble*-like white stone. (Probably, like nations gate in *Persepolis*, it also had *Sphinxes* or *Winged Bull* impressions.)

The pier and floor of side gates installed between the double longitude flanks of the hall were composed of white stones. Each portal had a width of 1.80m and a thickness of 1.55m. Upon each of the four piers of the double portal, the image of a mythical or real creature could be seen above which a trilingual inscription (*Old Persian, Elamit and Babylonian*) in cuneiform was placed which in Translation reads:

"I am *Cyrus* the king, an Achaemenids"

Among main impressions of the four portals only one still remains which is known as the *Winged Man* at northwest of the complex.

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<sup>1</sup> In his writings, Stronach calls it as "Palace R" and "Relief Gate", Herzfeld named it "Relief Palace".



Because it is regarded as *Pasargadae* gate, the history of this palace can be attributed to *Cyrus the first*. But strong influence of *Phoenician* art upon the *Winged Man* impression as well as evidence of *Ionic* and *Lydian* art in stone carvings indicate an earlier date namely 540-530 BC.<sup>2</sup>



Fig. 2-36. Gate House Palace  
Source: Pasargadae Research Foundation Archives

Regarding the winged figure, it must be said that the impression was essentially a trilingual inscription in four lines with the following context:

In the old Persian reads:

*"Adam kurush khshayathiya hakhamaneshiya"*, which means: "I am *Cyrus*, the Achaemenian king".

The impression was first recorded during the visit of *James Morier* and *Sir William Ouseley* in 1811. Later in 1818, it was sketched in detail by *Sir Robert Ker Porter* to be repeated by *C.F.M. Texier* and *P. Coste* in 1840 AD.

The last old visitor to see the cuneiform inscription in its original place was *John Ussher* who visited *Pasargadae* early 1861. Nevertheless, when the pioneer photographer, *F. Stolze* went to *Pasargadae* in 1874, the entire upper section of the impression had been already removed. The relief shows the full bust of a man with a bushy beard and four wings who is facing the center of the building. (Adopted from the *Assyrian* art in which it has been compared to the magical, winged guard of *Sargin* the second palace in *Khorsabad*.) He is clad in an *Elamite* overall cloak with fringes passing over his right arm. Fringes of the cloth are adorned by

<sup>2</sup> Shapur Shahbazi, A. (2000); "Comprehensive Guide of Pasargadae...", Page.56

Rosette impressions. The man has a crown tied to a grooved hat stuck on his head. The crown has been placed upon the long and wavy horns of an *Abyssinian* ram and between them two *Cobra* snakes are seen each having a small globe on their head as a symbol of Sun. The main part of the crown includes three bunches of *Reed* flowers, each having a globe atop and enclosed by *Ostrich* feather. Three solar rings with concentric circles are seen at the end of bunch of *Reed* flower.

It is well-known fact that such a crown is essentially Egyptian dating back to *Atef* crown which belongs to an Egyptian God named "*Osiris*". This crown was conical and adorned with two ostrich feathers. In Egyptian mythology, "*The Symbol of War Cry*" was called "*Hemhemet*" which was shown with a crown composed of three *Atef* crowns placed atop two *Ram* horns. In *Pasargadae* impression, two *Cobra* snakes which were the symbol of the glowing eye of "*Roa*" (god of the shining sun) in Egyptian mythology could be seen. Additionally, they served as the icon of the Royal Family.

Some people think that the impression is an image of *Cyrus* or a symbol of "*Faroohar*" but the best interpretation was presented by an Indian scholar, *Molana Abolkalam-e Azad* who tried to prove in the year 1950 that this is an image of "*Dhu'l-Qarnain*" (*Zolgharneyn*) mentioned in Holy *Quran*.

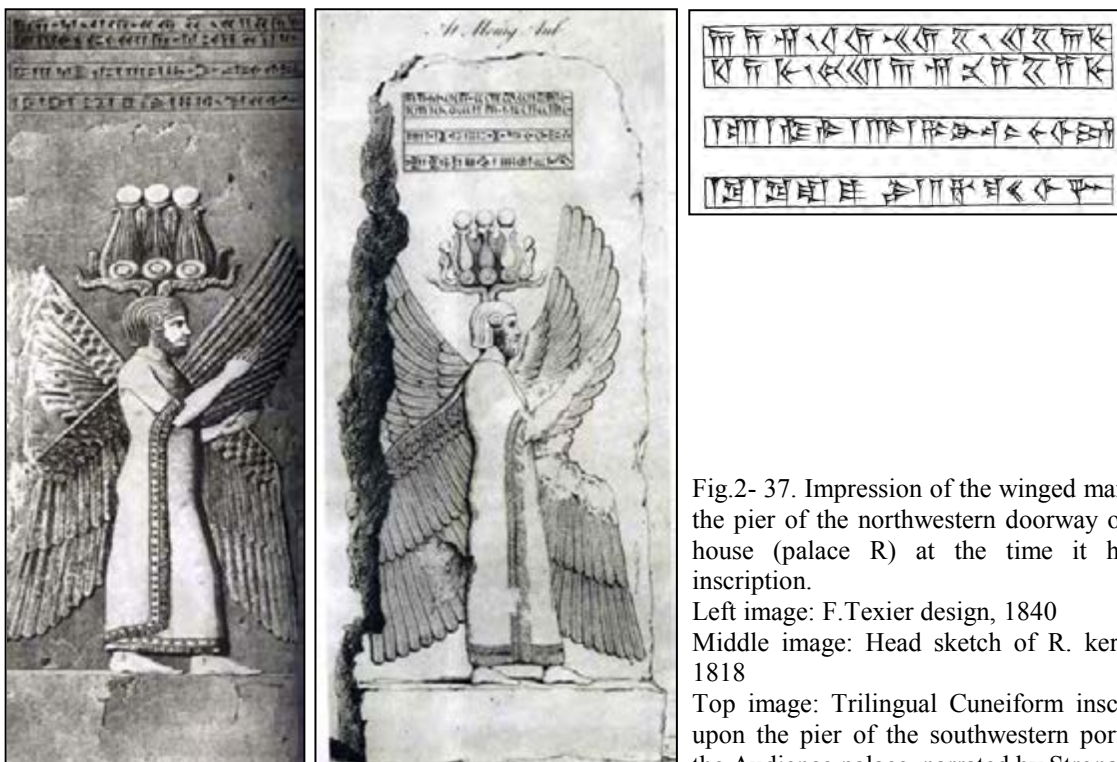


Fig.2- 37. Impression of the winged man upon the pier of the northwestern doorway of Gate house (palace R) at the time it had an inscription.  
 Left image: F. Texier design, 1840  
 Middle image: Head sketch of R. Kerportier, 1818  
 Top image: Trilingual Cuneiform inscription upon the pier of the southwestern portico of the Audience palace, narrated by Stronach

### Palace "S" or the audience palace

The Audience Palace<sup>3</sup> is located 1250m northeast of *Cyrus* tomb and consists of a central hall and four surrounding porticoes. The hall of the palace was a rectangular shaped structure with a length and width of 32/35 by 22/14m and a height of 18m. The roof was based upon eight columns (two quadrupled rows) with black stone capitals shaped as a beast head.

As for the capitals, various fragments found during *Herzfeld's* excavations suppose there would have been four forms of sculptured impost capitals, each of black stone and all have been attributed to the main hall of the monument. *Herzfeld* writes that the relevant forms were a *Hybrid*, *Horned* and *Crested Lion* (now disappeared but once well preserved and photographed by *Herzfeld*), a monster, a bull, and a horse. However, there is not any trace of these capital fragments today.<sup>4</sup>

In this palace, two kinds of *Lime* stones were used: Pedestals were made from black *lime* stones and column slips and torus were made of White marble-like lime stones which were well-scraped. (Slips were 12meters composed of four parts)

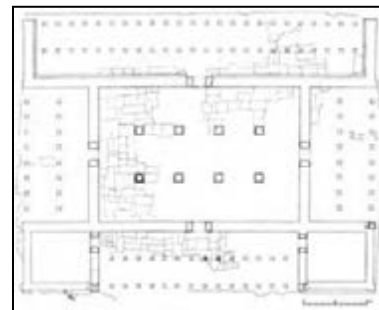


Fig. 2-38. The audience hall palace  
Source: Pasargadae Research Foundation  
Archives

Hall floor was double layered with the lower layer made of coarsely scraped white marble 48cm thick and the upper layer made of well-scraped White Marble 44-50cm thick installed as big boulders. In the middle of each one of the four walls, there existed a door way made of Black Stone with a width of 206cm and a depth of 162cm, which linked the hall to the adjacent portico. Margins of door ways were adorned with carved impressions of which only

<sup>3</sup> *Iranians* call this palace *Divan-khaneh*, *Herzfeld* and *Stronach* named it Columned Palace (Because only one of its columns still remains) and Palace S respectively.

<sup>4</sup> Nomination dossier of *Pasargadae* (2002).

those belonging to southeastern, southwestern and northwestern door ways remain. Characteristics of each one are as follows:

**Southeastern portal impressions:** A barefoot man wearing a short skirt and a cloak adorned by Fish scales walking ahead another man with bull feet and hoofs and a fine tail decorated with flowers carrying a Wooden Stick which has a banner behind its tip. Direction of the men's feet is towards the hall portico.

**Northwestern portal impressions:** A barefoot man is walking in front of a monster with feet like eagle claws and a very elegant cloak.

**Southwestern portal impressions:** Remains of three barefoot men wearing long cloaks each dragging a hoofed beast. In the words of researchers, the place was where *Cyrus* and his successors held sessions with local officials about internal affairs. It can be claimed that here the first human rights council and civilizations dialogues were held.<sup>5</sup>

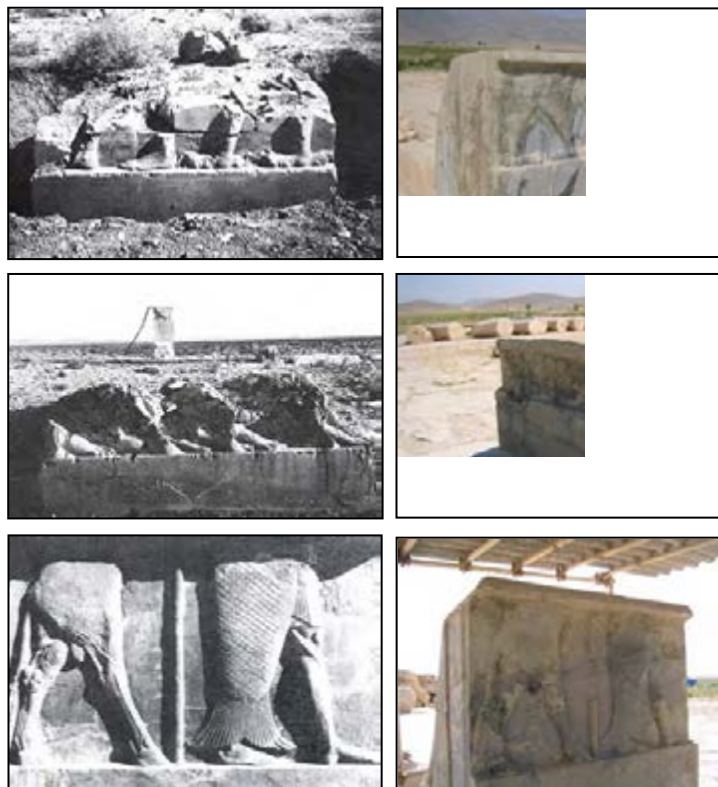


Fig. 2-39. Carvings remaining inside the piers of audience palace doorways

Upper picture: right hand pier of the northwestern doorway

Middle picture: left hand pier of the southwestern doorway

Lower picture: left hand pier of the southeastern doorway

Source: The Comprehensive Guidebook of Pasargadae, *A. Shapur Shahbazi*, 2000

<sup>5</sup> Shapur Shahbazi, A. (2000); "Comprehensive Guide of Pasargadae...", Pages: 48-56

### The Royal (*Shahi*) garden bridge

In the year 1342 solar AH, remains of a stone bridge were discovered 150m west of Gate House, which shows that the bridge was built over a stream apparently branched off *Polvar* River.<sup>6</sup> The structure consists of a square hall with two opposed limestone sidewalls with five rows of three stone columns between them. The original construction had a width of about 16 m and a length of about 16 m. The original height of each column, as estimated by *Stronach*, was a little more than 2 m. Few parallels are known for this structure. *Stronach* does not suggest any certain date for the bridge. But he writes that since it is not built exactly in line with the axis of "Gate R", the bridge is plausibly a late Achaemenids or even a Post-Achaemenids construction.<sup>7</sup>

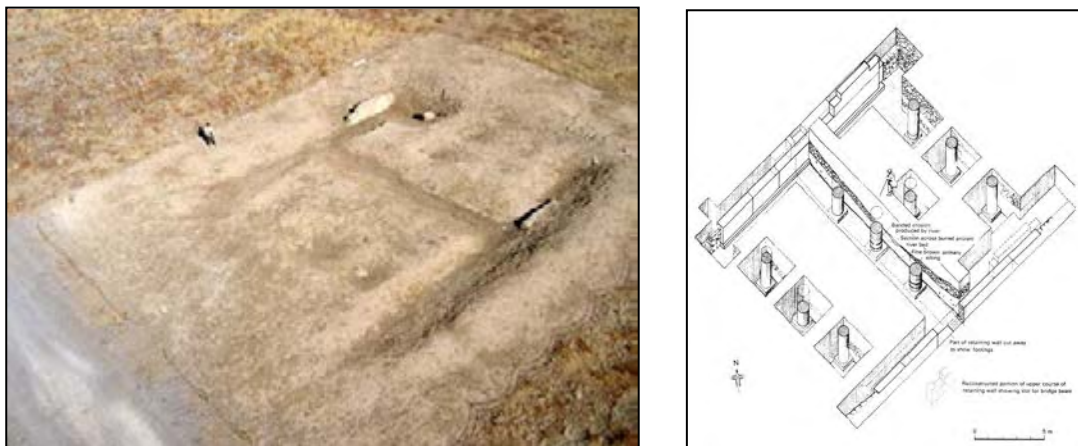


Fig. 2-40. the reconstructed design of the Achaemenian Bridge in Pasargadae by Stronach

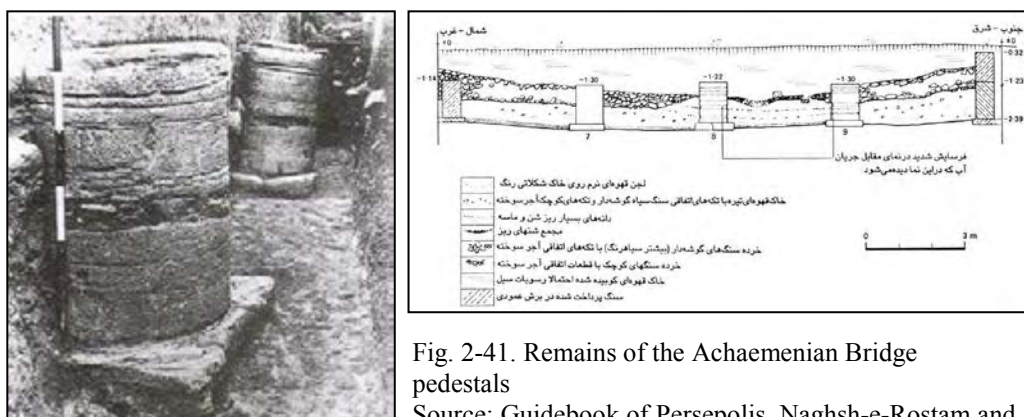


Fig. 2-41. Remains of the Achaemenian Bridge pedestals  
Source: Guidebook of Persepolis, Naghsh-e-Rostam and Pasargadae, Farrokh Saeedi, 1999

<sup>6</sup> Shapur Shahbazi, A. (2000); "Comprehensive Guide of Pasargadae...", Page: 69.

<sup>7</sup> Nomination dossier of Pasargadae (2002).

### Palace "P" or the residential palace

Called sometimes the "private palace" or the "Residential Palace" of *Cyrus the Great* by *Herzfeld*, this structure has attracted wide attention of both the early travelers and the excavators of *Pasargadae*. The Palace "P" was firstly excavated by *E. Herzfeld* in 1928. *Herzfeld*, however, failed to give an accurate plan of the structure. In 1950, *A. Sami* excavated the entire structure and gave an adequate record of the main stone features. Finally, *D. Stronach* re-examined Palace "P" in 1960's; the British survey of the palace gives accurate information on the state of the monument as it appeared in November 1963.

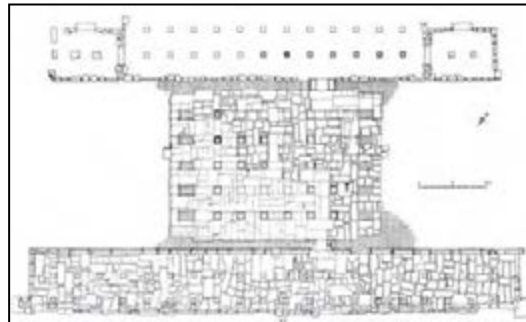


Fig. 2-42. Private Palace (Palace P)  
Source: Pasargadae Research Foundation Archives

The palace is constituted of three main parts: a central hall flanked by two large porticoes, forming an "H" on plan. The interior of the hypostyle hall measures 31.10 m in length by 22.10 m in width. It has five rows of six columns, separated from each other by a standard interval of 2.35. The stone bases are composed of a double plinth and a horizontally fluted torus. No entirely preserved drum is seen today in Palace "P". The drums have a diameter of about 69 cm, and they probably had a height of about 10 m. The south-eastern portico, called also the "*Throne Portico*" by *Stronach*, is an impressive one with 72.52 m long and 9.35 m deep. The pavement consists of one white and one black stone course. Two row of twenty columns lie in antis with a pair of antae of which only one is today preserved. The traces of the columns are mostly disappeared today, and we often possess no more than a buff stone foundation plinth. The surviving lower part of the bases, above the level of the pavement, allows reconstructing the two-colored stone base that is smaller than, but similar to the bases

of the main hall. In the absence of any stone fragments, *Stronach* assumes that the drums were probably in Wood. The North-western Portico is an abbreviated, unpaved, and shorter version of the south-eastern portico in smaller dimensions. It is 44.85 m in length with a deep of about 9 m. It has two rows of twelve column bases of which only one more or less complete base, a double square plinth, and a fluted torus are actually preserved. The drums were originally in Wood. Two unpaved rooms flank the northwest portico and share similar internal dimensions of 9.65 x 7.15 m. Only stone foundations of these rooms are preserved today. At the southwest end of the south-eastern portico, a still undamaged anta stands 6.14 m above pavement level. It is the lone surviving anta from Palace P, which is one of a pair that once flanked the southeastern portico. It is composed of two superimposed blocks. On its inner face, there is the trilingual Cuneiform inscription within in a single frame of 90 x 40 cm. The inscription reading is "I, *Cyrus*, the king, an Achaemenian".



Fig. 2- 43. Impression on the northwestern doorway of the Palace P



Fig.2- 44.Cuneiform inscription of the southeastern portico of Palace P

Other examples of the Cuneiform inscription are on the southeast portico of Place "S", and on the winged genius in gate "R"; the latter is now vanished. Four poorly preserved relieves decorated once the inner side of the black limestone jambs of the portals connecting the hypostyle hall with the porticoes. They were discovered during *Herzfeld's* excavations in 1928, and were partly restored in 1950. The scene on each jamb shows a king, followed by an attendant, leaving the hall. The upper part of the relieves has been completely disappeared, and we possess few fragments which can be ascribed with certainty to the upper parts.

A short trilingual inscription in Old Persian, *Elamit*, and *Akkadian* once labeled the royal figure, on the pleated robe of the king, read as "*Cyrus*, the great king, an Achaemenian".

Moreover, from a number of inscribed fragments found in Palace "P", it can be assumed that a trilingual inscription once existed on the top part of each jamb above the figure of the king. According to *Stronach*, the construction of Palace "P" appears to begin in the last years of *Cyrus'* reign, between 535 and 530 B.C. The various comparisons show that while many features of the general plan had been partly presented in the plan of Palace "S", the design of Palace "P" draws on certain older Iranian architectural features that were not employed in the other monuments of *Pasargadae*. Oblong piers are known from *Urartian* sites; internal corner pilasters are found at *Teppeh Nush-e Jan*, in the *Zagros*, and the thirty-columned hall is derived from the *Median* complex of *Godin Tepeh* (tell), in the *Kangavar* plain.<sup>8</sup>

### The royal garden

According to historians, *Cyrus Tomb* and palaces were constructed amid a big garden located in a green plain irrigated by several Watercourses branching off *Polvar River*. This lovely, green area was called *Pasargadae* or Royal Garden, which is considered as one of the oldest remnants of Persian Gardens from which only part of its watercourses and drain pipes still remain. *Stronach* says this about *Ancient Garden of Pasargadae*:

"...During the founding of a monumental capital displaying the power of Achaemenids, *Cyrus* ambitiously enclosed in his building plans, the construction of a garden. *Babylonian* or *Assyrian* royal gardens have always been a separated or complementary part of the palace but *Cyrus* palaces with their elongated porticos and their surrounding open spaces served as the complement of a comprehensive project in which the garden in a sense becomes a royal residence..."



Fig.2- 45. Aerial photo of Pasargadae World Heritage Site / Royal Garden

<sup>8</sup> Nomination dossier of Pasargadae (2002).



In addition, *M.K.Pirnia*, says this in his description of *Ancient Garden of Pasargadae* and its architecture:

"...Inside the limits of *Cyrus*' new project, there are a number of stone Watercourse which not only indicate a conventional garden but also contribute to the blending of diverse sections of the palace area into a single unit. The Watercourse have been made in the best possible form of Achaemenian style for more longevity. They have been made of well-cut inter connected limestone blocks and are appropriately adapted to the fine architecture of nearby palaces. Water needed for irrigation purposes was easily available. Among its local water resources was a permanent stream covering the eastern flank of *Toll-e Takht* which afterwards went directly through the heart of the palace arena. Additionally, it should be noted that the Watercourse made of glossy white stones not only had a decorative function but also were certainly used for irrigating the royal garden of *Pasargadae* namely filling the small square basins which subsequently filled water reservoirs. It must be mentioned that *Pasargadae* buildings and gardens remained intact several generations after death of *Cyrus* which made it possible to commemorate the innovative plan of *Cyrus* not only in Fars but also in other parts of the Achaemenian empire. It seems that widespread *Cyrus* conquests paved the way for two periodical developments in the garden architecture. Firstly, his wish to put a big distance between his capital and other capitals made him build his palaces in a terrain and amid gardens, which exceptionally lacked any defensive fortifications. Secondly, his clear intention to display new measures of stonemasonry, which had been adopted after conquering *Lydia* was one of the main factors encouraging him to construct Watercourse and small basins made of well cut stones.

Aside the influence of such passing political considerations in the formation of the complex pattern at issue, the major contributing factor guaranteeing its long term impact was the general balance and elaboration of *Pasargadae* as well as many experimental guidelines for conventional laying out of the garden space. The most important factor is *Chahar Bagh* model which was displayed in the second half of the sixth century BC in *Pasargadae* as one of the most enduring Achaemenian innovations regarding monumental landscape gardening..."<sup>9</sup>

The garden had a total area of about 250 by 300 square meters composed of two symmetrical rectangles with a beautiful water-view enclosing it. Between these two zones, there was a 26 meters wide street with water brooks running on its either sides. In addition to these two gardens, three other gardens with similar specifications existed within the area among the

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<sup>9</sup> Pirnia, M.K. (2003); " Stylistics of Iran Architectural ", Pages: 67-72

Sitting Palace, the Audience Palace and the Gate Palace. In addition, two pavilions with the same architectural style as *Pasargadae* palaces were constructed along the Watercourse routes: pavilion A with an approximate size of about 10/45 by 7/90 east of the garden and pavilion B with an approximate size of about 11/70 by 10/15 south of the garden. It seems that these structures which had porticos all around them (their foundations are still be visible) were very important because wide roads with trees planted along them, connected them to the triple palaces mentioned above. Moreover, several Watercourses had been made in order to irrigate the garden from *Polvar* River with their remains still existing.<sup>10</sup>

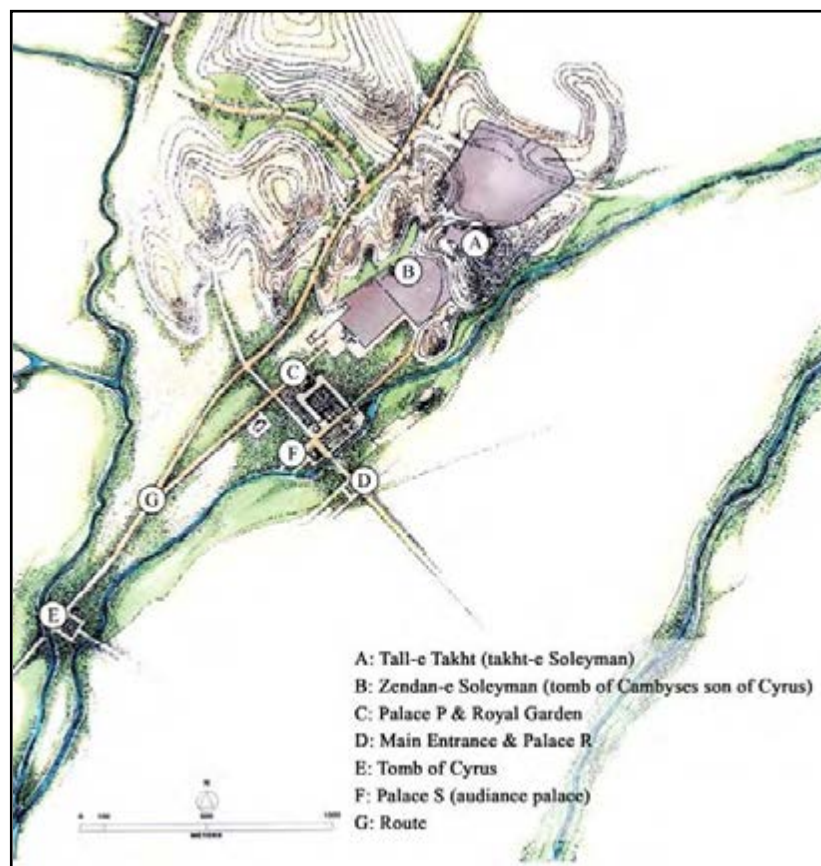


Fig. 2- 46. Site Plan, Source: The Persian Garden: echoes of paradise

At present, only a bridge remains from this branch which is called Royal Garden Bridge. Watercourses had white colored floors with a width of 90cm and two 30cm stone edges on either side of this paving, which creates an aqueduct having a width of about 25cm and a depth of around 12.5cm. Stone basins have been installed at intervals of 14-15meters made of

<sup>10</sup> Talebian, M.H. (2004); " Persian Garden and Pasargadae", Page: 3.

a Cubic boulder with a length and width of one meter and a depth of 50cm at garden corners. These basins were equipped with vents to cutoff water current.<sup>11</sup>

Part of garden Watercourse that are located opposite the private palace of *Cyrus* has been made of stone but at other parts, earthen "Karts" (traditional earthen waterway) have been used to direct water to other sections of the garden.<sup>12</sup> (*Stronach* thinks that this is due to *Cyrus* frequenting between Palace "P" and the Audience Hall via Stone Watercourse).

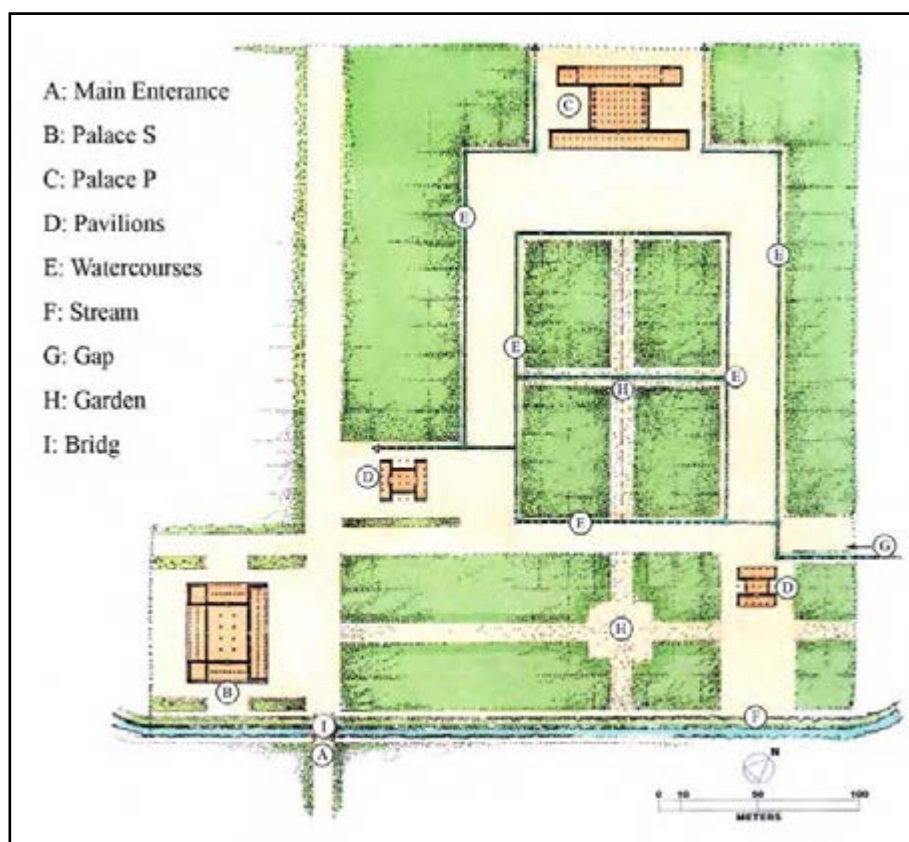


Fig. 2-47. Sketch of Royal Garden  
Source: *The Persian Garden: echoes of paradise*.

Regarding the time of constructing the complex, the coordination of the garden with Palace "P" as well as their coaxial manner and the mixture of Watercourses and palace at this spot, it

<sup>11</sup> Shahpur Shahbazi, A.R. (2000); "Comprehensive Guide of Pasargadae... ", Page. 76.

<sup>12</sup> Considering the large area of the royal garden as well as absence of any other water views, it is supposed that only the remaining section of the garden had stone water views and other sections had a non-stone structure. Based on this hypothesis, it might be guessed that this section was the focal point of the garden concerning its significance.

can be concluded that the main *Ancient garden of Pasargadae* was associated with Palace "P". In addition, it seems that planner and designer of Royal Gardens was *Cyrus*.<sup>13</sup>

Pavilions were also complements of Watercourses in the Royal Garden complex but today only meager traces of them can still be seen in the east and south of the central garden area. The structure of these pavilions was somehow a simplified and summarized design of *Pasargadae* palaces blueprint and served as the focal point for this green area. In other words, it is an exact scheme of landscaping and integrating architecture with nature.

These two pavilions appear to form two of the three entries (aside from palace "P") to the rectangle of the Royal Garden, which was about 300 x 250 m in size.

Pavilion "A" is now a much denuded structure, and the reconstruction given by *D. Stronach* is necessarily tentative. The outstanding features of the floor of the paved central room measure 10.45 x 7.90 m.<sup>14</sup>



Fig. 2- 48. Pavilion A  
Source: Pasargadae Research Foundation Archives

<sup>13</sup> *Xenophon*, the great Greek historian narrates this from a Spartan commander named *Lysander* who had personally seen the garden of *Cyrus* in 401 BC:

"When the conqueror of *Athens* and the great *Spartan* general, *Lysander* went to *Cyrus* court with many gifts, he was warmly welcome by the king. Then the two old friends started talking and walking toward the grand garden of *Cyrus* nicknamed *Paradise of Sard*. When *Lysander* who was fascinated by the garden began to praise it, *Cyrus* said:" I have planted all the trees that you can see. I have measured the field myself and have directed the digging of sapling pits. I can even show you trees that I have planted with my own hands..." (Refer to Shapur Shahbazi, A.R, 2000, Page: 72).

<sup>14</sup> Nomination dossier of Pasargadae (2002).

Pavilion B, which was referred to as the Garden Pavilion in earlier reports, is located 120 m to the north of Palace "S". The building, much better preserved than Pavilion "A", actually consists of a rectangular platform of dressed stones, approximately 11.70 x 10.15 m in area, with what were probably the foundations of opposed porticoes on its north-eastern and south-western sides and possibly on its other two sides as well. The central paved room was 11.60 x 10.10 m in size with wide opposed portals in each short wall. The pavement is made up of more or less rectangular stones that are laid in regular courses at least in the southwest half of the room. The presence of two large thresholds are shown by the twin foundation stones that project from each of the paved room's shorter sides while the portals themselves appear to have been at least 2.60 m wide. According to the excavator, some dressing marks that are still to be seen along the edges of the paved floor and on certain of the portico foundations let to suppose that the mud-brick walls of the pavilion must have varied in thickness from 1.55 to 1.70 m. The two main porticoes, each of which had an original width of 17.75 m, once possessed four columns placed 3.55 m apart, with two columns on each of the short sides of the building giving it a harmonious appearance. *Stronach* estimates that Pavilion "B" once covered an area of 24 x 21 m, as opposed to an area of 21 x 19.75 m for the over-all dimensions of Pavilion A. By its position on the private path that the king no doubt used to pass between his two main palaces, Pavilion "B" must be counted as a building of some importance.<sup>1</sup>



Fig. 2- 49. Pavilion B  
Source: Pasargadae Research Foundation Archives

<sup>1</sup> Nomination dossier of Pasargadae (2002).

Finally, it should be reminded that *Ancient Garden of Pasargadae* and its palace complex are considered as one of the most long-lasting innovations of the Achaemenian era and the first specimen of the Persian garden making. Consequently, they are utilized as a model of garden making both at home and abroad especially by neighboring countries.

Accordingly, this feature has been regarded as an evaluative criterion at the time of inclusion of the historical complex of *Pasargadae* in the world heritage list.

Based on this criterion, the following was expressed in article four:

"The royal *Chahar Bagh* complex established in *Pasargadae* became a prototype for this kind of architecture and design in west Asia."

### **Present statement**

As said before, narration of a famous Spartan soldier's words by *Xenophon*, the Greek writer in historical and architectural records clearly verifies the existence of the garden built by *Cyrus*. Moreover, various investigations and studies, air photos, geophysical maps and their matching, stone Watercourse and *Karts*, structures around *Cyrus* mausoleum which were photographed by *Schmidt* in 1936, altogether confirm the presence of much greater structures than what remains today.



Fig. 2- 50. Matching the geophysical map with aerial photo

Source: Geophysical investigations in the Orient Study Center of Lyon University, France & Parse Pasargadae Research Foundation 2001-2004



Fig. 2- 51. Matching the geophysical map with plan of Royal garden.  
Source Plan: Schmidt 1936

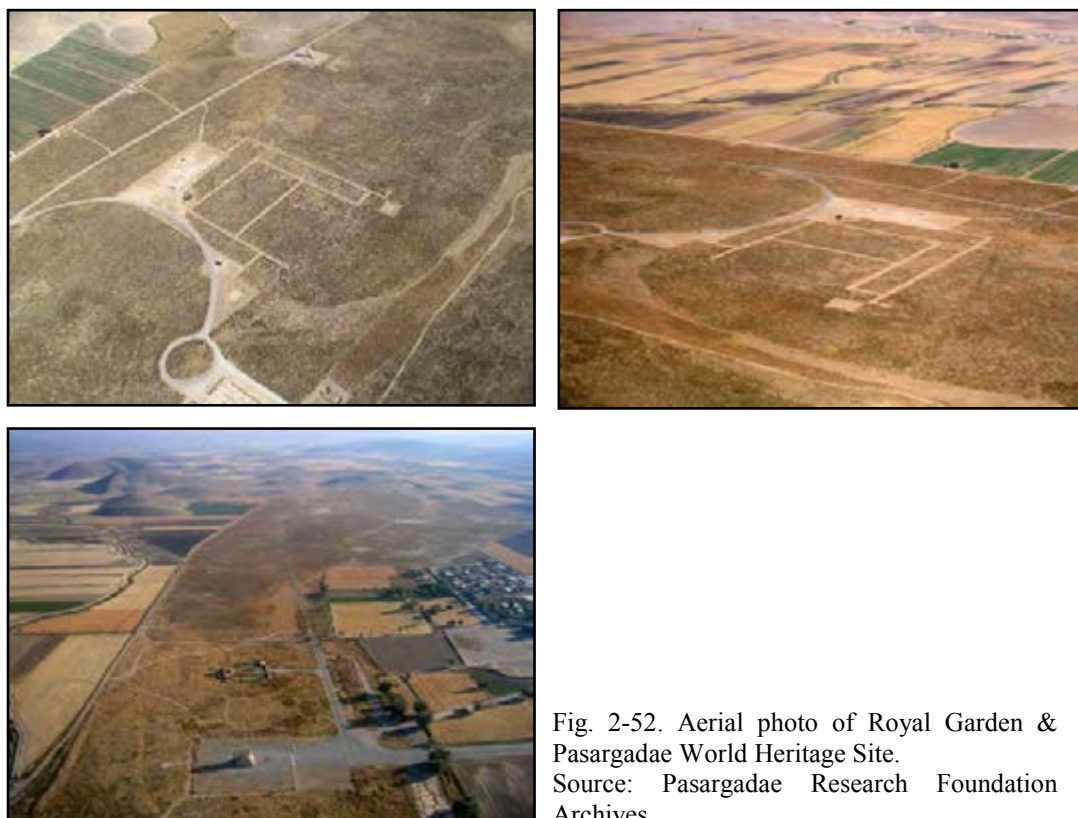
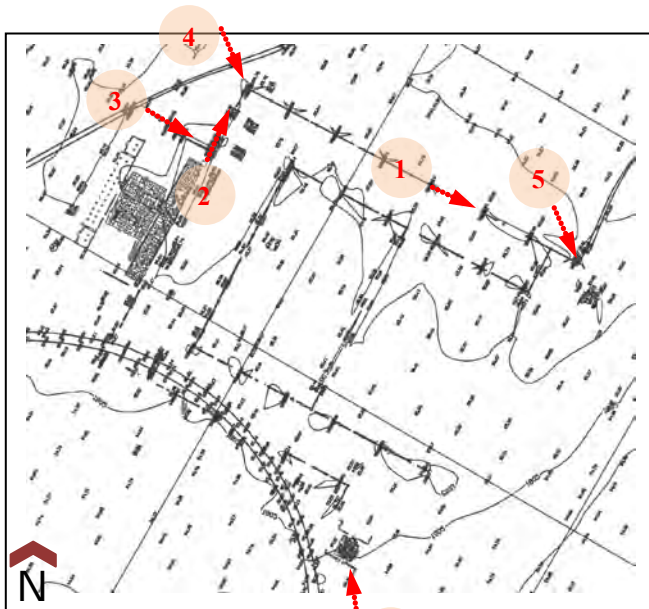


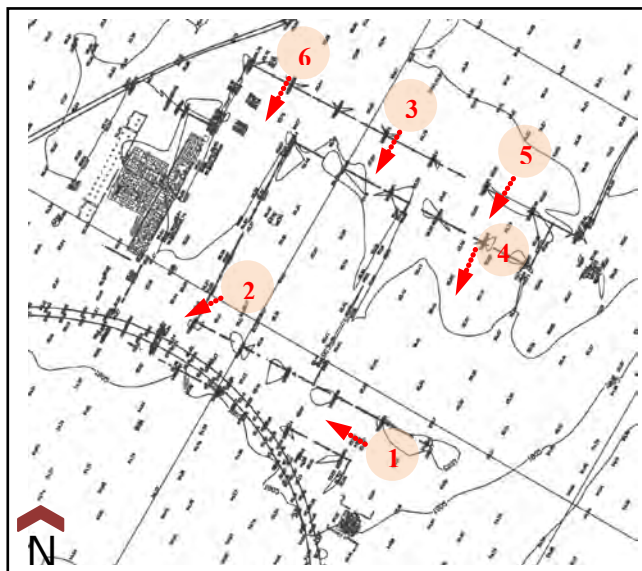
Fig. 2-52. Aerial photo of Royal Garden & Pasargadae World Heritage Site.  
Source: Pasargadae Research Foundation Archives

**Royal garden/ watercourses and pavilion**





**Watercourses of royal garden**



**Water system and water flow within the area under study**

*Madar-e Soleyman (Solomon’s Mother) Plain* is part of the *Qader Abad* field of study and a component of *Bakhtegan* watershed. Water resources of the region include underground and surface waters. The latter is limited to *Sivand River*.

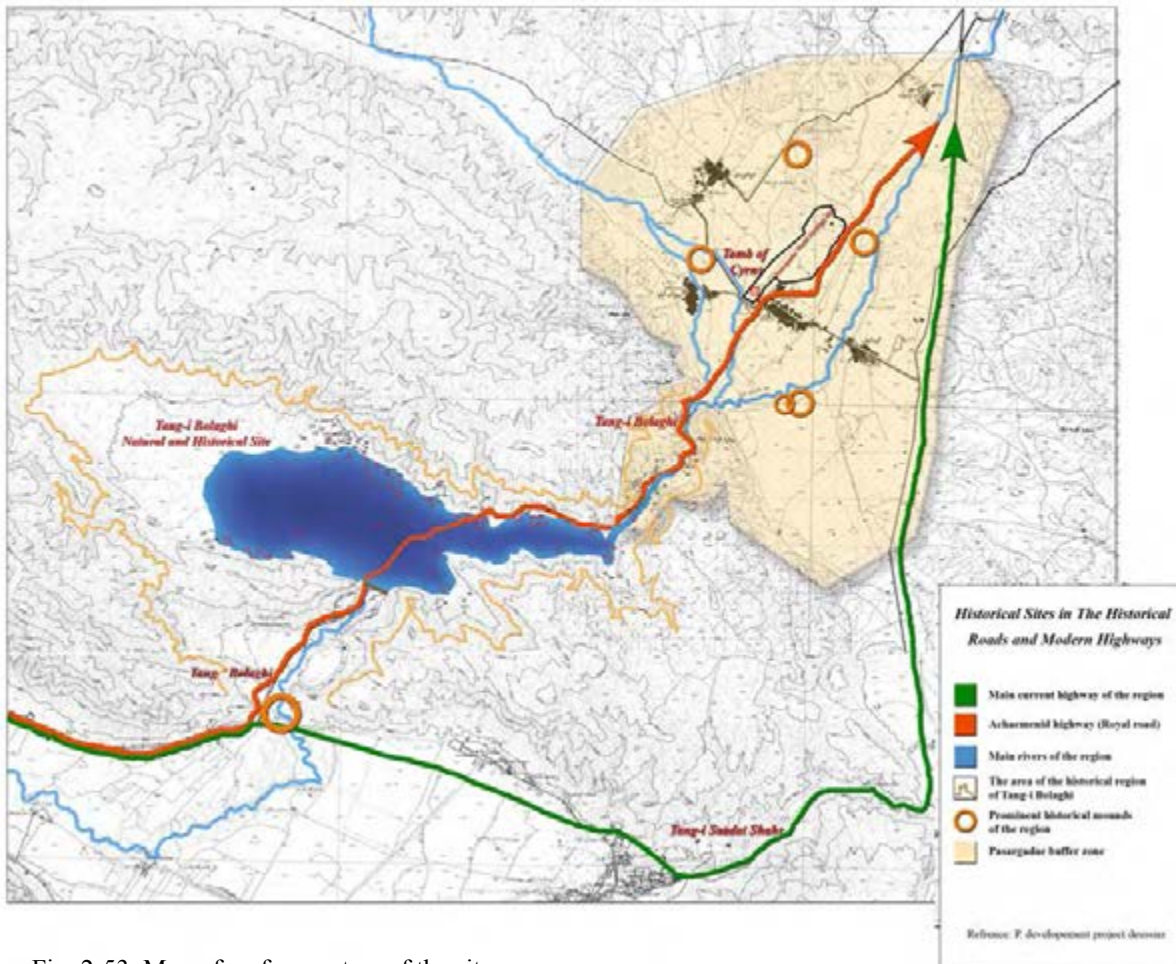


Fig. 2-53. Map of surface waters of the site  
Source: Pasargadae Research Foundation Archives.

Archeological investigations and excavations within the cultural domain of *Pasargadae* show traces of about five dams and a few water canals belonging to Achaemenian era; Among them *ang-e Hana* dam is more important.<sup>2</sup> These dams were built at a distance of about 35 kilometers northeast of *Pasargadae* over the permanent *Polvar* River which is one of the

<sup>2</sup>Refer to the appendix: See, Survey and Soundings in Pasargadae Area, A Report of the Joint Iranian-French Archeological Mission in March 2008/Esfand 1386, Directed by: Rémy Boucharlat, Kouros Mohammadkhani

main sources of supplying water for *Ancient Garden of Pasargadae*. The mean altitude of the terrain is 2060m above sea level.<sup>3</sup>

The dams which have a clay core and an over layer made of rubble stone have been constructed in an elaborate manner over *Polvar River* using exact engineering. Their construction was probably intended to control seasonal floods and supplying water for optimal functioning of their inner structures which possibly had an industrial usage just like a watermill. According to studies conducted and the evidence obtained, construction of dams and dependent water canals dates back to the early Achaemenids era (During the reign of *Darius* and *Cyrus*).<sup>4</sup>



Fig. 2-54. Location of dams in Tang-e Hana  
 Drawing by: Hamid Reza Karami.  
 Source: Pasargadae Research Foundation Archives.

<sup>3</sup> After flowing towards *Pasargadae*, *Polvar River* branches off into streams made by the Achaemenids in order to irrigate the royal garden. This river is called *Nahr-e-Hakhamaneshi*(Achaemenian Stream) under the terms used by the Development Project of *Pasargadae* (Restoration Group of *Pasargadae* Studies Center) Afterwards it changes its direction toward *Tang-e Bolaghi* under the name of *Kord-shul*.)

<sup>4</sup> Karami, Hamidreza (2006); "The Achaemenian Dams, Tang-e Hana, Pasargadae", Archive center of Pasargadae Research Foundation, Pages:1-10.

In another word, the system of water division and distribution installed as well as techniques used to prevent seasonal floods in *Pasargadae* site are among technical features of Achaemenids architecture. *Polvar* River water current which is controlled by *Achaemenian* dams is directed toward *Pasargadae*.

Here, it flows into Mud or Stone *Karts* of the Royal Garden via streams branched off the river; at last it is optimally distributed inside the garden by wooden vents and stone basins.



Fig. 2-55. Path of the stream branched off Polvar River (Pasargadae) inside the royal garden and a view of Darius Bridge in Tang-e Bolaghi  
Resource: Archives of the Research Foundation

## Vegetation

Local studies conducted regarding the topographical status, climatic condition, geological structure and soil properties of the region reveal that the existing vegetation is the same as that belonging to *Zagros* geographical sphere. Due to appropriate precipitation as well as local rich soil, quality of the vegetation has improved significantly. Based on such investigations indigenous vegetation can be classified into four types namely:

### 1- Pasture vegetation

Presently, about 11% of the entire regional vegetation is consisted of pasture which enjoys high quality and density as well as the variety of species belonging to *Zagros* region.

Dominant pasture species include medical plants and plants of *Gramineae* family. Among

medical and edible plants used by indigenous people are: rocket-seeds, hedge-mustard, Ververeshk, prickly artichoke, salsify, Sirmook, common mugwort, opopanax and garden thyme.

## **2- Forest Vegetation**

*Morghab Plain* forest by and large has characteristics similar to the forest vegetation of *Zagros* region regarding specific plant species. Based on studies done, about five percent of the regional vegetation is forest in which dominant species are *Boneh* and *Kikom*. This kind of vegetation is generally seen in: *Polvar* riverside, mountain feet of the southwestern section, *Tang-e Siah* valley, *Tang-e Sardareh* and specially *Tang-e Bolaghi* (*Bolaghi Strait*). These forest species are also seen sporadically in plains.

## **3- Garden Vegetation**

About 3% of total vegetation of the region belongs to local gardens which are mostly orchards or vineyards. Several gardens were destroyed due to developmental projects conducted in villages. Rural population growth as well as aerial photos taken during the past thirty years visibly verifies the scope of destruction.

## **4- Agricultural Vegetation**

Expansion of fields under cultivation resulted in the allocation of more than 70% of total regional vegetation to agricultural ones. Wheat and barley are major agricultural products.<sup>5</sup>

Not much information is available about the vegetation of the Royal Garden in *Pasargadae* Complex. Therefore, it is necessary to conduct field studies as well as botanical archeology investigations about species more compatible with regional conditions because they will have more longevity, growth and health compared with other species. Additionally, species representative of *Zagros* region can be considered in this regard.<sup>6</sup>

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<sup>5</sup> Bahrami ,Behrang (2002); " Environmental Design and Landscape of Pasargadae...", Pages:59-61

<sup>6</sup> Refer to the appendix

## ***Bagh-e Eram- Shiraz***

### **1-Introduction**

Shiraz is the capital of Fars province and the biggest city in the mountainous region of southern Iran. Its geographical coordinates are 29°, 38' northern latitude and 52°, 40' eastern longitude. Shiraz is located in a plain with closed basins, which is more than 1500m (5000ft.) above sea level. The area has a north-west to south-east slope, surrounded by high mountains. The length of the plain is 40km and its average width is 15km. Its northern mountains with a north western-south eastern direction are made of several parallel chains in which many villages are scattered. Proximity of the city to historical sites of *Parse* and *Pasargadae* which have been the capital of Iran at different periods of time indicates its importance. Despite its continental climate, Shiraz is much cooler than nearby towns like Kazeroon and ports such as *Reeg* or *Gonaveh*, which have the same longitude. That is because of its high altitude. Precipitations take place in autumn, winter or early spring. Its average monthly temperature is 16.6 degrees and most of the time, the minimum and maximum values do not deviate much from this figure. Only at mid-summers or mid-winters severe hotness or coldness are experienced. Though not sufficient but its humidity and rainfall are more than many other Iranian cities.

### **2-Name of the Garden: *Bagh-e Eram***

*Bagh-e Eram* of Shiraz has been built in a vast rectangular shaped terrain. Its longer northward side is overlooking *Eram Boulevard* and its shorter westward side is opposite *Daneshjoo Boulevard*. The two other sides are located towards adjacent gardens and residential homes. Its ground has a west to east slope. The main building as well as the *Andarooni* (Private section) is located at its western section. Total area of *Bagh-e Eram* is approximately 110,380 square meters.<sup>1</sup>

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<sup>1</sup> Deputy of Studies' research report, Shiraz university, 2005.

**2-1- Location of Geographical**

**1a. Country (and State Party if different):** IRAN

**1b. State of province or region:** FARS

**1c. Name of Property:** *Bagh-e Eram*

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 52° 31' 31"; N: 29° 38' 10.03"



Fig. 2-56. Location of the city of Shiraz



Fig. 2-57. Aerial Photo of *Bagh-e Eram*

### 3- Features existing in the garden

#### 3-1- Natural features

##### 3-1-1- Garden plants

Measures similar to other Persian Gardens have been taken in this garden concerning its vegetation. Due to the location of *Bagh-e Eram* in a hot and arid terrain, it has been attempted to decrease the intense heat by planting dense and shadow casting trees including cedars, pines, etc... Also medical trees and flowers were planted which had the additional medical effects aside their aesthetic effects.



Fig. 2-58. Main pavilion (Base of *Bagh-e Eram*)

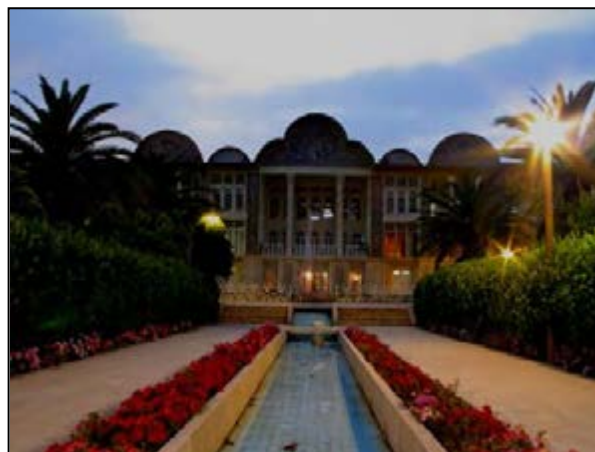


Fig. 2-59. Main pavilion (Base of *Bagh-e Eram*)

*Bagh-e Eram* trees can be classified into two groups of fructiferous and non-fructiferous ones. Among its non-fructiferous trees are: pine, cedar, maple, judas-tree, weeping willow, *Siaband*, mountain ash, pussy willow, eucalyptus and white poplar.

Among its fructiferous trees are pomegranate, medlar, sour orange, persimmon, walnut, apricot, almond, apple, quince and pear.

One of the most characteristic trees of the garden is a kind of cedar known as *Sarv-e naz* which are tall and beautiful trees. *Sarv-e naz* of *Bagh-e Eram* is one of the tallest trees of its kind in *Shiraz* with a height of about 35meters which has also been mentioned in several travel diaries including the one written by *Tavernie*. Today, *Bagh-e Eram* is also known for the variety of its flowers. During the last two decades, many different flowers have been planted in it; especially its *rose* flowers are very lovely and excellent. During garden



expansion, a rose garden was built at its western and north-western side with an approximate number of three hundred varieties.



Fig.2-60. The Plants (S.Malekpour 2009)



Fig. 2-61. The Plants (H. Naderi, 2009)



Fig. 2-62. The Plants (H. Naderi, 2009)

Flowers planted in *Bagh-e Eram* can be classified into ten different groups:

- Small decorative trees with beautiful flowers including: eglantine, cluster jasmine, yellow jasmine, wild hyacinth, *Toori*, Japanese quince, flower peach, flower apple, silk, oleander, *Tavoosi* and many types of rose.
- Small decorative trees with beautiful leaves including: Magnolia, *Serang*, silver cypress, jar cypress, palm and laurel.
- Annual flowers resistant to coldness: Which include: violet, wallflower, marigold, daisy, snapdragon, lentil flower, delphinium, *Qerenfel*, carnation and clove gillyflower.
- Annual flowers sensitive to coldness: which include: zinnia, begonia, *Parivash*, petunia, French marigold, cockscomb, aster, *Gol-e naz*, *Gol-e khoshk*, garden balsam, China aster, *Salvi*, verbena (vervain), *Atlasi*, decorative pepper and cherry
- Bulbous flowers: such as: buttercup, Indian shot (canna), dahlia, trumpet flower
- Permanent floriferous bushes: include: oxeye daisy, margarita, mountain dahlia and *Khorshidi*.
- Covering and crawling permanent plants: covering plants include: *Telegraphy flower*.
- Land crawling plants include: passion flower, wisteria, English ivy, *Abshar talai*, *Pich-e barfi*, honeysuckle and *Pich-e anari*.

- Annual Creeping Plants: including morning glory and decorative pumpkin.
- Fence Plants: including: box tree, Roman laurel, *Parivash*, *Abri*, petunia, cockscomb, French marigold, aster, *Gol-e naz*, *Gol-e khoshk*, garden balsam, Chinese aster, *salvi*, verbena (vervain) and *Atlasi*.
- Greenhouse Flowers: In addition to the above mentioned flowers, some other flowers are exclusively nurtured and kept inside the greenhouse of *Bagh-e Eram* and some are also taken out to open air flower beds. Greenhouse flowers include: begonia, finix, bourgainvilla, cineraria (fleawort), *Asparagus sperengeri*, *Asparagus plumosus* and *Commelinaceae* (common spider-wort).<sup>2</sup>



Fig. 2- 63. Main pavilion, view in Andarooni (M.R.Sharif, *Bagh-e Eram*)

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<sup>2</sup> Sharif, H. R (2005); "A Review of Historical Course and Identification of the Architectural Style of Bagh-e Eram".

### 3-1-2- Water

**Spring:** Previously, in north west of *Shiraz* there existed a place called *Qasr-e Qamsheh* which was surrounded by several villages and gardens. A large spring called *Jooshak* is seen here in a pit from which the water gushes out and runs on the ground in a stream. Stream water joins the water of several manmade subterranean canals called *Qanat* and after covering a distance of about twelve kilometers reaches a big water shed and forms a river called: *Nahr-e Aazam* (the great stream) which is divided into multiple brooks for irrigating nearby gardens as well as supplying the water of *Shiraz*. One of the brooks separating *Nahr-e Aazam* above *Maghsam-e Aala* (upper divider) is known as *Dinkan* brook. *Bagh-e Eram* of *Shiraz* was irrigated by *Miri* brook which makes up one fifth of *Nahr-e Aazam* water. Water allotment for *Bagh-e Eram* was a total of fifty hours for a period of two weeks. Eighteen hours of which was allocated exclusively to *Bagh-e Eram* but because it was not sufficient for its thorough irrigation, the thirty two hours deficit had to be purchased.<sup>3</sup>



Fig. 2-64. *Bagh-e Eram* in winter (M.R.Sharif, *Bagh-e Eram*)

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<sup>3</sup> Hoseini Fasaei, Hasan (1988); "Nasari Farsnameh".

But presently due to widespread developing projects underway at its west side, water supplying from the stream has been cut off which has resulted in digging two deep wells sized four and six inches in the garden. Water required for garden irrigation was drawn by water pumps and delivered to its flowerbeds by pipes. Recently, another well has been dug outside the garden in *Eram* street, which is used for irrigation purposes during emergencies. The urban water supply system is used for drinking because it has already been treated.<sup>4</sup>

The double main streets of *Bagh-e Eram* are cross like and canals have been dug at the either sides or at the middle of these streets for other irrigation matters. Concerning Shiraz climate in which the most cost effective usage of water is intended, the regular geometry is actually to prevent wasting water. In addition, having water run in four canals built in four directions, is in fact an allegory of the four streams of *Paradise* in the Persian Garden.

Opposite the main pavilion of the garden, which is overlooking its arena, there exists a big pool, in which the image of the entire building is reflected.

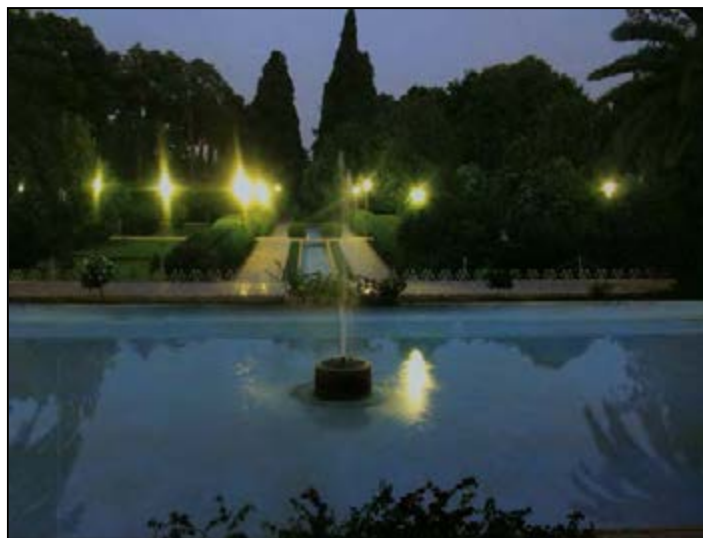


Fig. 2- 65. The Pool in front of Main Pavilion  
(M.R.Sharif, *Bagh-e Eram*)

Simultaneous observation of the real image create some kind of visual association in human being. Main axis of the pool is alongside the length of the building. The pool is rectangular with an area of 335 square meters with a perimeter consisted of eighteen solid boulders. Probably it dates back to the period of *Janikhan-e Ilkhani*'s rule. This pool was deeper in the

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<sup>4</sup> Deputy of Studies' research report, Shiraz university, 2005.

past but has been filled with earth during recent repairs so that now has a depth of only half a meter. In recent repairs its floor and edges have been covered by white tiles. Three basins have been installed in its new grounds at the north western side when it was repaired and reconstructed during Pahlavis period.<sup>5</sup>

Alongside the building axis and at the same direction with the garden length, there exists the main stream of *Bagh-e Eram* which has been branched off its pool. It has been built in a step wise fashion because of the garden gradient.

Water running from *Nahr-e Aazam* towards the garden entered the canals around the pool after circulating in the *Howz khaneh* (basin house). Afterwards, it ran inside the wide canal of the main street as well as other side canals along other garden paths and around flowerbeds. No canal has a water jet except for the main one. The form of these water jets has been adopted from pedestals of the pavilion. Stream water flowing inside the canals is pumped up from two wells dug in the western part of the garden which are subsequently utilized in irrigating garden flowers by pipe work.



Fig. 2- 66. Blossoms in *Bagh-e Eram*  
(M.R.Sharif, *Bagh-e Eram*)

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<sup>5</sup> Deputy of Studies' research report, Shiraz university, 2005.

### 3-2- Architectural Features

*Bagh-e Eram* space is unique regarding its designing, paths and tree rows not only among *Shiraz* gardens but also among other garden located elsewhere in Iran.

Following the pattern of Persian Gardens, *Bagh-e Eram* is based on a longitude axis and special usage of square shapes in their general and partial composition and enjoys a symmetrical style. Its vast ground is rectangular shaped with a west to east slope. The main building and *Andaroon* (inner) complex are in an elevated spot west of the garden. Unlike other Persian Gardens which have a north to south direction, the main building of *Bagh-e Eram* is eastwards. At the middle of *Bagh-e Eram*, upon the main axis, there exists a major passage way in a west to east direction which starts from opposite the main building and the large pool and continues as far as end of the garden. On either sides of the path, short box-trees have formed a fine fence. At its middle point from opposite the large pool as far as the middle of the garden, a brook runs which has been divided into several branches. From here water flows to other sections of the garden. Along either side of this route and other tall trees have been planted. Another wide path in a north to south direction intersects the main route at the middle of the garden. Aside these two wide paths, other routes have been made parallel to them at other spots of the garden.

The main building of the garden is a relatively complete example of pavilions built in mid-Qajars period. Characteristics of its architectural style follow the pattern popular in Safavids and Zands eras exactly like similar buildings constructed during the reign of *Naaseroldeen-shah* of Qajar.<sup>6</sup>

Present building was constructed by the order of *Hasanali-khan Hadj-naseerol-molk* after destructing the former building at the same spot. The old building was constructed by *Janikhan* and *Mohammad qoli khan Ilkhani-e qashqaei*. Planner and builder of the new magnificent building was *Hadji Mohammad Hasan Memaar-e Shirazi*.<sup>7</sup>

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<sup>6</sup> Deputy of Studies' Research Report, 2005.

<sup>7</sup> Aryan poor, Alireza (1986): "A Research on Identification of Persian Gardens and Historical Gardens of Shiraz".

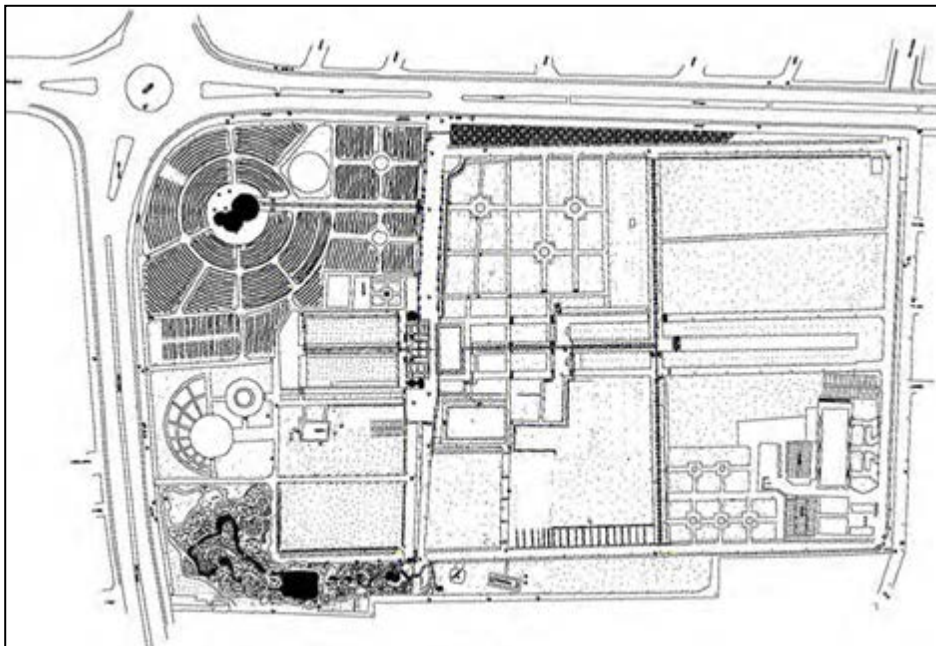


Fig. 2-67. Plan of *Bagh-e Eram* (Base of *Bagh-e Eram*)

Today, the main pavilion is regarded as the central nucleus of the garden and its most interesting feature. Its ground floor rooms are almost under the ground and its main hall has been used for resting and relaxing during hot summer days. The stream goes directly through this hall, filling the pool before reaching the big basin...A stairway links this floor to upper ones and to corridors leading to big halls. Its southern view is the continuance of the main axis. Its northward landscape consists of riverside hills...All over this vast area hardly a rose flower bush is seen....<sup>8</sup>



Fig. 2-68. Andarooni (Base of *Bagh-e Eram*)



Fig. 2-69. Southern view of second floor of the main pavilion (H.Naderi, 2009)

<sup>8</sup>Wilber, Donald (1979); "Persian Gardens and their Pavilions".

The main building has three floors. It has a gable roof with a double columned porch at its front which has a flat roof. Regarding its architecture, painting, tiling, stone carving and stucco works, it can be considered as a masterpiece of art and industry in Qajars period. The lower floor which is at the same level with the ground has a middle main hall called the *Howz khaneh* (basin house). On either side of the basin house, there exist two corridors. At the end of both, stairways are seen leading to the upper floor. The porch of the main building is eastwards and has been built in first and second floors.



Fig. 2-70. Elevations and plans of main pavilion  
(Base of *Bagh-e Eram*)

Left to right:

- West elevation of main pavilion
- East elevation of main pavilion
- Plan of basement
- Plan of first floor
- Plan of second floor

Main building of *Bagh-e Eram* has been constructed based on a structural system consisted of: lime hardcore foundation, load bearing brick walls and flat wooden roof. Larger spaces such as the first and second floor alcove rooms and lateral private rooms have a false ceiling. Bricks used in the body of load bearing walls have a uniform size of 20 by 20 by 4cm. Walls have been made of mud bricks or sundried bricks and ceilings are flat and wooden.<sup>9</sup>

<sup>9</sup> Deputy of Studies' Research Report, 2005.



Plinths of front columns of the main building have been covered by solid stones called *Gandomak* each having a height of more than two meters. There are a total of eight stone columns. One of the main features of *Bagh-e Eram* building are its multiple, small doors which have been carved delicately and have color glasses with interesting designs. They have been attached to side rooms and alcove rooms of the first and second floors. Most of the wooden doors of the building are made of teak wood in order to resist moisture. For this reason, they have generally remained intact after all these years.



Fig. 2-71. Plinths of front columns of main pavilion (H.Naderi, 2009)

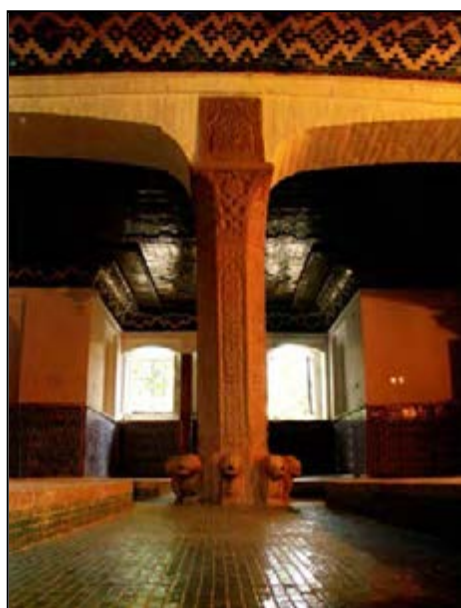


Fig. 2-72. A steram runs directly through the Howz khaneh in the base ment (M.R.Sharif, *Bagh-e Eram*)

Wilber writes this about tiling of the *howz-khaneh* (basin house) hall in the first floor:

"Walls and floor of the hall have been covered with color tiles...Here, as well as many other Shiraz buildings, glossy tiles and cut stones revive the old heritage. The trilateral section (pediment) presents a Sassanids view decorated with colored tiles. On the floor built at the same level as the ground, lime tablets are actually replicas of Achaemenids inscriptions seen in *Persepolis*.<sup>10</sup>

Polychrome tiles used in the façade generally follow the style of *Zands and Qajars* periods with beautiful patterns and designs. Tiles used in facades of the main and *Andarooni* buildings are called *Haftrang* which in *Farsi* means seven colored.

On building edges a fine composition of white, black, turquoise and buff colored mosaic tiles can be seen upon a round background.

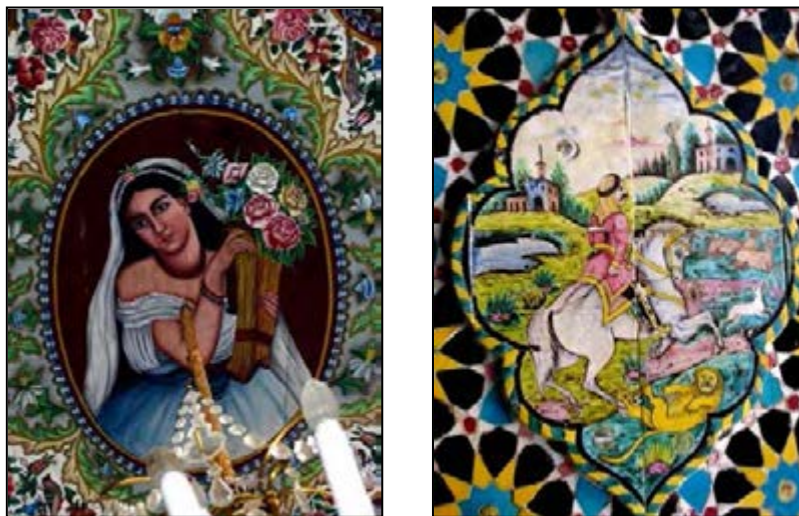


Fig. 2-73. Tile works in main pavilion (S.Malekpour, 2009)

At top of the main building of *Bagh-e Eram* beautiful crescents (semi-lunar) have been installed composed of colorful and painted tiles which have given it a special gloss. Tiling style of these crescents is similar to the style popular in *Zands and Qajars* periods.

Ceilings of the two halls in the second floor are covered with wooden stalks and regular boards. They have fine and high quality paintings in which scenes of shrubbery, arabesque

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<sup>10</sup> Wilber, Donald (1979); "Persian Gardens and their Pavilions".

patterns, hunt scenes, women portraits as well as pictures of European style castles have been shown.

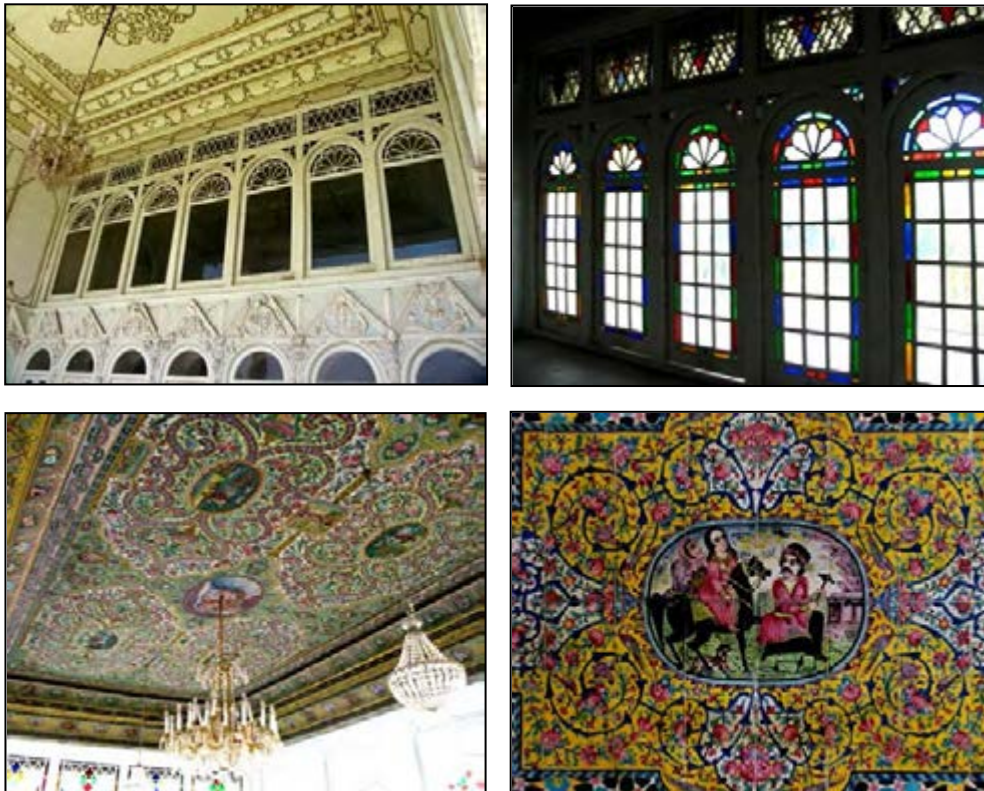


Fig. 2-74. Inner space of main pavilion (H.Naderi, 2009), (S.malekpour 2009)

Behind the main building at the western side of the garden, there exists the *Andarooni* and its structure. Today, because of garden expansion and the increase of its size at its western part, its main building, rooms of its former cook house, *Andarooni* building and its enclosed yard have formed a complex at the middle of the garden. Opposite the door of *Andarooni*, a quadrilateral is seen which is called *Gholam-neshin* (meaning servants sitting place in *Farsi*). On the either side of it, there is a corridor each having two side rooms. The building has a total of five rooms, one opposite the façade and four others at its flanks. Two eastwards porches are located on the either sides of these corridors. Two other corridors are seen next to porches which make up a total of four parallel corridors.



Fig. 2-75. At the front part of the andaroon (the seraglio), there is a quadrilateral structure, known as the Gholam-Neshin (lit. slave room).



Fig. 2-76. Andarooni (The seraglio, reserved for the private household life, has been built at the back of the main building (M.R.Sharif, Bāgh-e Eram)

At the southern side of *Andarooni* section, there exists a space which according to old texts was apparently a hot bath house. The evidence show that it dates back to *Qajar* era.

It is not clear why during the Pahlavis rule; it went under a function change. After which it was used as a guard room but when the building was handed over to Shiraz University, *Andarooni* became the faculty of law and the bath house was converted into its library. At present, the bath house is under restoration and revitalization.<sup>11</sup>

At the time being, *Bagh-e Eram* has two façade entrances, one in the northern body of the garden opposite *Eram* street and the other the eastern service gate. Additionally, it has two temporary service entrances in the west. Of the two northern gates of the garden which are considered its main entrances, one is the present façade entrance very near the main building which has been made in recent decades replacing the previous façade gate. It has a fine design composed of bricks.

<sup>11</sup> Deputy of Studies' Research Report, 2005.

The north eastern brick façade has been decorated with tile and brick patterns by the order of *Nasiroldouleh* in 1344 lunar AH(1926 AC).<sup>12</sup> It has many decorations. Aside the brickwork patterns of the building which at some spots is simple and in other spots is intricate using the *Khofteh-rasteh* (horizontal-vertical) mat-like technique, its beauty has been increased because of: mosaic tile paintings, tile and brick mosaic, polychromic tiles as well as *Moaghali* tile-brick.



Fig. 2-77. North eastern entrance (M.R.Sharif, *Bagh-e Eram*)

This entrance has a marble inscription (Fig.23) with engravings in *Nasta'liq* calligraphy which reads:

In the name of *Allah*, the compassionate, the Merciful  
Courtesy of the king's *Vazier*, *Nasir-ol-Molk*, the generous  
May the *Bagh-e Eram* forever be fair and prosperous

<sup>12</sup> Based on the Façade Inscription



Fig. 2-78. The left tile inscriptions  
(M.R.Sharif, *Bagh-e Eram*)



Fig. 2-79. The left tile inscriptions  
(M.R.Sharif, *Bagh-e Eram*)



Fig.2-80. The right tile inscriptions  
(M.R.Sharif, *Bagh-e Eram*)

The portal also has two tile inscriptions with the following verses from the Holy *Quran*.

During the Qajars rule, *Bagh-e Eram* had a wall made of *Chineh*.<sup>13</sup> But later when the garden space was expanded, this wall was destroyed. Instead, two of its sides which are beside *Eram* Boulevard and the triple mill have been enclosed with new material in order that passers-by enjoy the beautiful garden view. Part of the rails has been covered with lovely twining plants such as honeysuckle and *Pich-e anari*.



Fig. 2-81. New wall  
(M.R.Sharif, *Bagh-e Eram*)

<sup>13</sup> Hoseini Fasaei, Hasan (1988); "Naseri Farsnameh".

#### **4-Garden typology**

Given the history of its development, its architectural form and function, *Bagh-e Eram* Complex is classified as a garden-pavilion.

#### **5-Some special and outstanding points about *Bagh-e Eram***

##### **5-1-Plants Characteristics**

*Bagh-e Eram* serves as a raw model for tree planting and landscape gardening. Additionally, it acts as the continuum of pre-Islamic Persian Gardens.

- A) Its old cedars which are matchless in other parts of *Iran*, is among the features that make it a salient sample of gardens in Iran.
- B) Another prominent feature of *Bagh-e Eram* is its nurturing of rare plants, its sore orange trees and the wide variety of rose flowers planted inside its rose-garden.

##### **5-2- *Kushk* (Pavilion) of *Bagh-e Eram***

- A) Design of *Bagh-e Eram* pavilion is a unique sample of indigenous architectural design popular in Shiraz during Qajars rule. Usage of carved columns as well as excellent tiling substantiates this claim.
- B) Presence of *Andarooni* building and *Miansara* (yard) at the back of the main structure of the garden which is unprecedented in the designing of the Persian Garden pavilions.

##### **5-3- Specifications of *Bagh-e Eram* Waterworks**

*Bagh-e Eram* waterworks formerly originated from an upstream spring called *Jooshak* which after traveling a certain distance joined the main stream and entered directly into the ground floor of the main pavilion hall. Then after filling the pool by its branch brooks, which had special arrangements for economical reasons, irrigated garden flowerbeds.

## **Bagh-e Chehel Sotun - Isfahan**

### **1-Introduction**

Isfahan province with an area of about 106,179.5 square kilometers is located between 30°, 43' and 34°, 27' northern latitude relative to the equator and 49°, 36' as far as 55°, 31' eastern longitude relative to Greenwich meridian. Situated at central Iran, the province is neighboring Markazi, Semnan and Qom provinces in the north, Fars and Kohkiluyeh-va-Boyerahmad provinces in the south, Yazd province in the east and Lorestan and Chaharmahal-va-Bakhtiari provinces in the west.

Stones existing in the province belong to the oldest geological formations until the beginning of Quaternary era. Due to its specific condition, a wide variety of geological phenomena are observed in Isfahan province including: volcanic, oceanic, evaporative as well as metamorphic activities. Various mines in the region also bear witness to this fact.

Average temperature in Isfahan province increases from west to east so that in western highlands it is as little as four degrees centigrade which rises to about 22 degrees centigrade in eastern areas. Temperature variation is influenced by the dominant topographical condition and geographical reliefs in the province. Therefore, the warmest and coldest spots coincide with the highest and lowest areas respectively.

In this province the precipitation is mostly under the influence of air masses entering the region from west. In fact, rain-producing masses originating from the Atlantic Ocean, the Mediterranean and Black Seas are the original source of precipitations that usually start in *Mehr* and continue until *Ordibehesht*. ( Iranian calendar months coinciding with mid-October till mid-April) Zagros Mountains located in the west of the province are on the way of such currents and affect air fronts significantly, adding to their rain-making qualities. Because most of the moisture of air masses is spread out in western parts of Isfahan province, precipitations decline from west to east.

The average annual rain is 600-1000mm in western highlands and as low as 60mm in eastern and northeastern low lands resulting in an overall provincial average of just 140mm. The absolute maximum temperature of 38- 48 and the absolute minimum temperature of -9- -29 degrees centigrade have been recorded in eastern and western districts respectively. Considering the above mentioned facts, Isfahan province consists of three distinct weather zones:



- 1- The northern and north eastern lowlands with a desert weather
- 2- A large part of central and southern districts with desert and semi-desert climate
- 3- The entire western and south western highlands which under the influence of air masses coming from west have more rainfall and sobriety a more temperate climate in which semi-wet and cold are frequently seen.

### **1-1- Isfahan City**

Isfahan city as the center of Isfahan province is in a semi-desert area with *Zayandeh-rud* River going through it. With an eastern longitude of 51°, 40', 20" and northern latitude of 32°, 39', 27" Isfahan is located at the center of Iran. The area in which Isfahan is situated is in the eastern part of Zagros Mountain chain comprising a low gradient plain ending in relatively vast terrain. From a geological point of view, Isfahan has not been built upon an earthquake prone land resulting in its average intactness of historical buildings. On the whole, Isfahan is one of Iran's touristic, cultural and economical centers with a moderate climate and regular seasons.

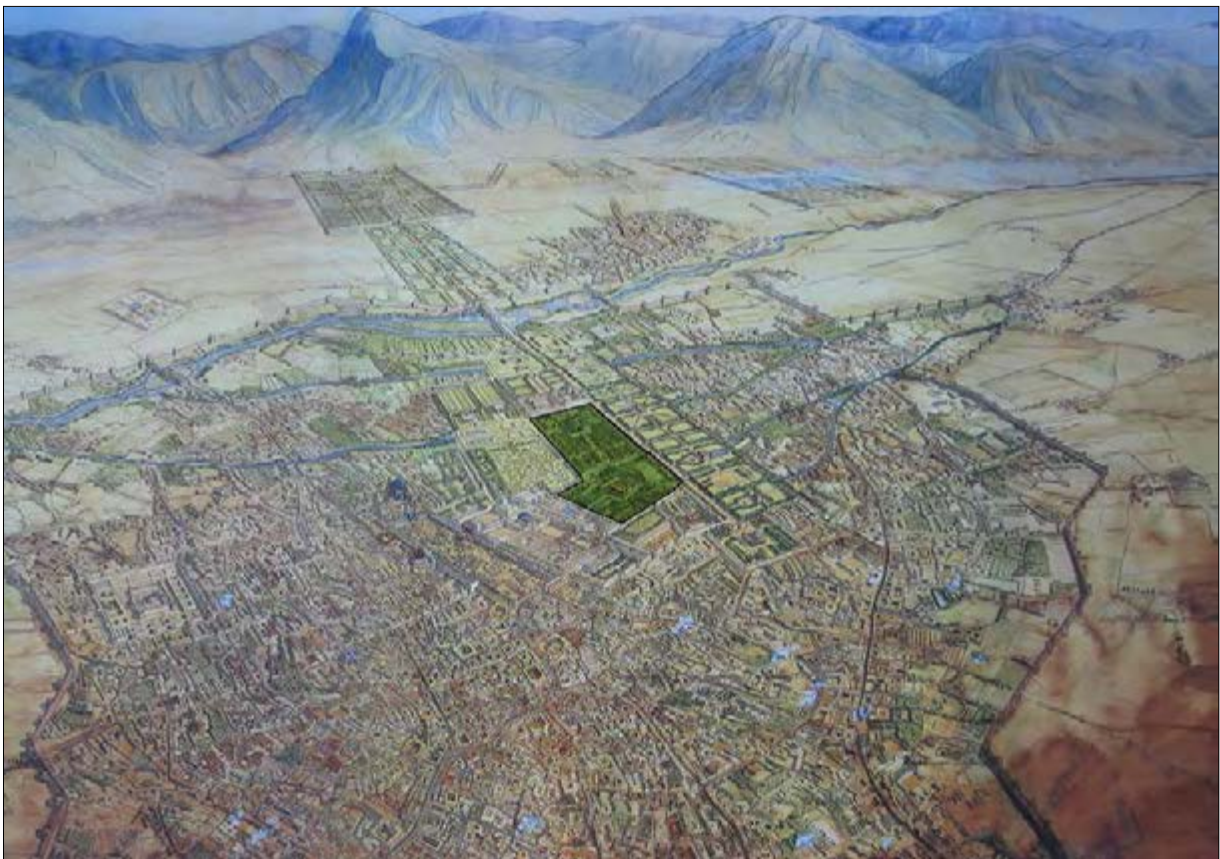


Fig. 2-82. Aerial view of Isfahan city, Bavand Consultant Engineers

During the course of history, it has been called by many names such as: *Apadana, Aasefhan, Sbahan, Spatena, Spahan, Aspedan, Spiner, Isfahan, Spedaneh, Enzan, Besfahan, Partak, Paari, Partikan, Jay, Darul-Yahudi, Rashurjay, Sepaneh, Shahrestan, Gaba, Gabian, Nesf-e Jahan* and *Yahudieh*. In *Shahnameh* of *Ferdowsi* this city has been mentioned several times. The geographical position of Isfahan amid important commercial centers of the past, namely:

*"Damascus and Aleppo at its west and Samarkand and Bokhara at its east as well as its centrality relative to Iranian borders and the presence of Zayandeh-rud River altogether have contributed to its growth and economical flourish in different periods of time. As a result, Isfahan has been selected as the Iranian capital city during the reign of the Seljukids and Safavids. City planning operations during the Safavids era have led to the expansion of Isfahan as well as establishing economical and recreational axes inside it. One of the ingenious approaches taken at this period was to create a balance between the old and newly constructed sections of the city so that its ancient context is not neglected. Construction of multiple gardens as well as street layouts known as *Chahar Bagh* was done within the framework of such programs."*

**2- Name of the Garden: *Bagh-e Chehel Sotun***

**2-1- Location of Geographical**

**1a. Country (and State Party if different): IRAN**

**1b. State of province or region: ISFAHAN**

**1c. Name of Property: *Bagh-e Chehel Sotun***

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 51° 40' 51"; N: 32° 39' 27"



Fig . 2-83. Location of the city of Isfahan in Iran (NHBI ,Base)

*Bagh-e Chehel Sotun* is so called because its palace had several columns. (*Chehel Sotun* in Farsi means forty columns) In ancient Iran, any plurality or multiplicity was usually shown by number forty. In fact, *Chehel Sotun Hall* has only twenty columns but their reflection in the opposite pool multiplies them by two. Some people comment that the original palace built

by *Shah Abas II* had actually forty columns but during a devastating fire in 21<sup>th</sup> *Ramadan* of the year 1118 LAH, only twenty columns remained out of five eight-columned rows and the rest was burnt down. In fact traces of fire can still be seen in the building's front section.<sup>14</sup>



Fig. 2-84. Isfahan, Dolat Khaneh with gardens, Safavids era, Bavand Consultant Engineers

<sup>14</sup> Rafiei, Abolghasem (1973), "National Monuments of Isfahan".



Fig .2-85. Aerial Photo of *Bagh-e Chehel Sotun*  
(Naghesh-e Jahan-Pars's Consultant Engineers, 2003)

### **3- Features Existing in the Garden**

#### **3-1- Natural Features**

##### **3-1-1- Garden Plants**

Main axes of the garden have been generated in an east to west direction along which plain trees have been planted. In his travel account, *Kampfer* has mentioned the line of tall plain trees at the length of the garden as well as three walkways whose entire routes came under tree shadows.

In her description of *Bagh-e Chehel Sotun Madam Dialafoa* has also mentioned several old trees and *rose* bushes planted in this garden.

In a picture drawn by *Kampfer* of the Safavids palace, *Bagh-e Chehel Sotun* has been depicted in this form: three walkways under the cover of plain trees canopy in which when the tree line reaches the palace it goes around it. *Miyan Karst* are marked by lines not indicating any major trees. In addition, all around the garden the same tree line has been

illustrated. In another picture depicted later, no mention has been made of garden trees. In the map drawn by *Seyed Reza Khan*, only *kart* layout in rectangular or square shapes is highlighted but no image of trees has been presented. Also in *Boduen* representation, although *kart* layout is shown exactly but no evidence has been given of any kind of plantations.

The first verifiable picture of the garden is an aerial photo taken in 1335 SAH in which a *Kart* layout similar to *Seyed Reza Khan*'s drawing is observed with flower beds all around the palace. In this photo the only walkway with sufficient shadow is on the northern axis of the garden adjacent a *Madi* waterworks in Isfahan are called by this name) going through the garden.

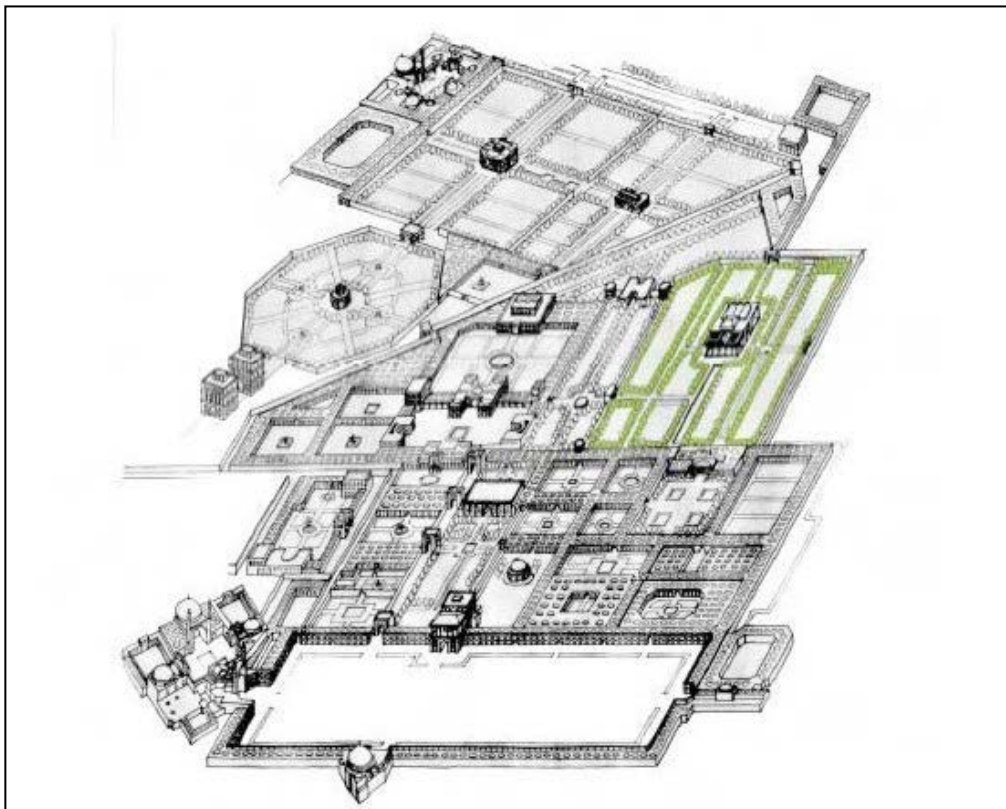


Fig .2-86. Picture drawn by Kampfer\_of important palaces and royal gardens in Isfahan (Naghesh-e Jahan-Pars's consultant engineers, 2003)

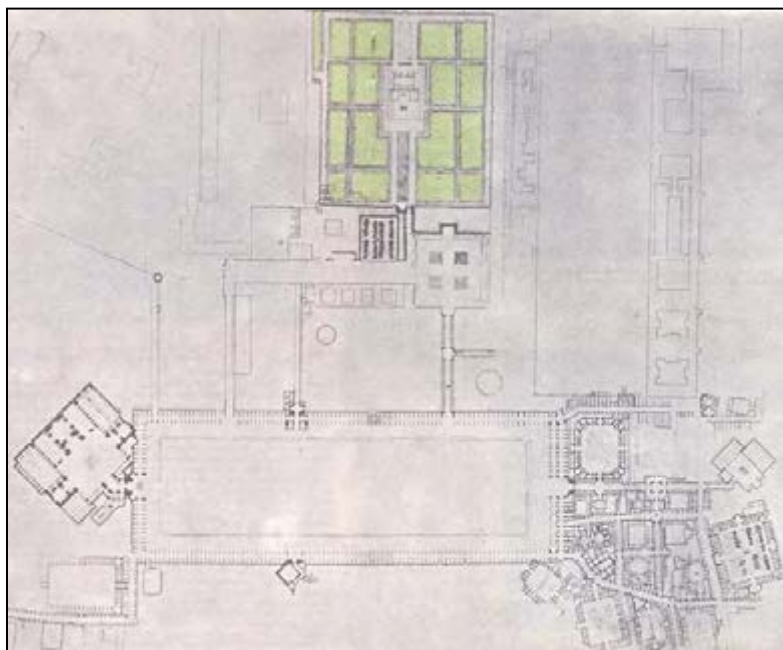


Fig . 2-87. Boduen map of *Bagh-e Chehel Sotun* (Naghesh-e Jahan-Pars's consultant engineers ,2003)

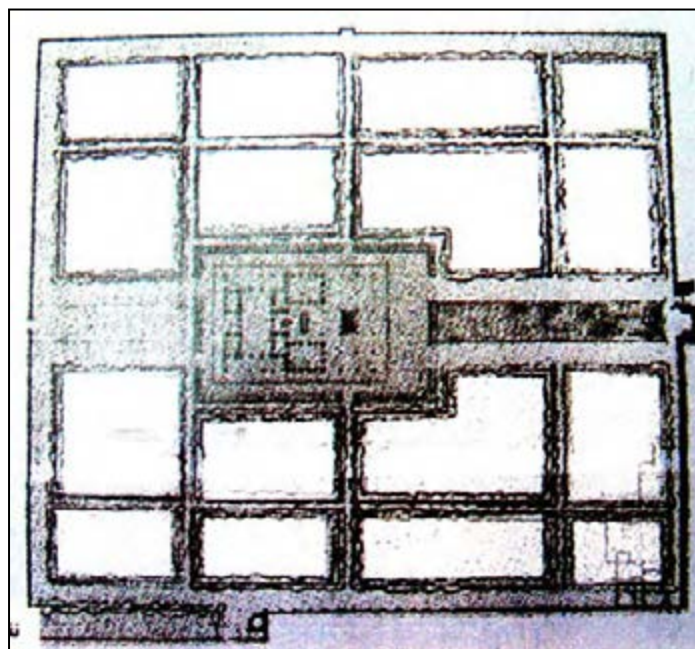


Fig . 2- 88 .Boduen map of *Bagh-e Chehel Sotun*, (NHBI, Base)

At present, *Bagh-e Chehel Sotun* vegetation comprises about 1050 trees and shrubs namely:

**Persian Pine (1625 trees)**

Persian pine with the scientific name of *Pinus Eldarica* has evergreen leaves with 2-5 leaves set inside a single sheath. The tree has an open or wide crown with 6-7cm long light green leaves. Its fruit is egg-shaped, brown-colored and glossy. Persian Pine is resistant to frost but needs plenty of sunshine as well as a soil with optimal drainage.



Fig . 2-89. Persian pine (Fazelinejad, 2009)

**Elm (292 trees)**

*Elm (Ulmus Pumila)* is a rapidly growing deciduous tree. It has a rounded crown, simple, alternate and dented leaves with a length of 2-7.5cm and a width of 1.5-2.5cm which resists both hot and cold weather. It grows in any soil except marshland soil but prefers moist, deep and enriched soils. During its annual pruning, its superfluous branches are cut and its rounded crown is kept. As a result, most of crown of *Bagh-e Chehel Sotun* trees are circular which leads to their enhanced shadow casting property as well as vitality and freshness.





Fig . 2-90. The oldest Elm tree (Fazelinejad, 2009)

#### **Black maple (75 trees)**

Black maple (*Acer Negundo*) is a rapidly growing deciduous tree which is resistant to dry weather conditions. Its reciprocal leaves have 3-5 leaflets with irregular teeth which are 5-10cm in length and 3-6cm in width. *Black maple* tolerates cold and hot weather as well as dry and semi-dry conditions. Its best growth occurs in enriched limy soil with proper drainage.

#### **Plane tree (61 trees)**

Plane Tree (*Platanus Orientalis*) is a deciduous tree resistant against frost which needs plenty of sunshine as well as deep, well-drained and fertile soil. It has a wide crown and a height of approximately twenty meters with large, light green claw shaped leaves and deep grooves.



Fig . 2-91. Plane Tree (Fazelinejad, 2009)

**Juniper tree (25 trees)**

Juniper tree (*Ailanthus Altissima*) is a tall, wild and fast growing tree. It has a dense crown as well as complete, composite and alternate leaves which are 30-90cm in length consisted of 11-30 leaflets with a length of 7-12cm. It flowers in spring but its male flowers have a bad odor. Juniper Tree grows in various weather conditions and is resistant to adverse climates.

**Cedar tree**

Cedars (*Cupressus Sempervirens*) are evergreen trees with a conic, pointed and tall stature. Its foliage starts from the ground surface. Therefore, it is recommended in designing green spaces in order to create regular landscapes and to strengthen vertical lines. It tolerates heat and light frost. Cedar tree favors deep, well-drained and not very rich soil as well as direct sunlight.

**Mulberry tree**

Mulberry tree (*Morus Nigra*) is an indigenous tree of Iran with a round crown, open form and widespread foliage. It has simple, alternate and dented leaves with a length of 6-12cm and edible, spindle shaped fruits which are purple or black colored and appear in summers. Tree roots are superficial. Mulberry Tree is resistant to heat and cold and is very compatible. It tolerates all kinds of soils and has the best growth in wet and enriched soils with optimal drainage.

**Claw leafed maple**

This kind of maple (*Acer Palmatum*) is a tree with irregular branches, a height of 3-7m and a crown diameter of 2-9m. Its leaves are simple, reciprocal, multi-sectioned with deep grooves 5-10cm wide. The tree tolerates heat and cold very well and prefers wet limy soil with proper drainage and added organic materials. In addition, it needs much moisture, does not bear dry weather and grows better in semi shaded areas.

**Aspen (white poplar)**

Aspen (*Populus Alba*) is a tree with widespread foliage and an open form. It reaches a height of 17-25m and has simple and alternate leaves with a length of 5-12cm and a width of 9-

10cm. The lower surface of these leaves has an opaque white color and its trunk is white. It is a compatible tree which is resistant to heat and cold. *Aspen* grows well in different soils.

### **Poplar**

*Poplar (Populus Nigra)* has a columnar stature with a dense and slim crown which can also be planted at garden margins as a green fence or wall. It has slender and erected branches which cover all over its trunk. Its leaves are simple, alternate and dented with a length of 4-9cm and a width of 3-8cm. *Poplar* grows in all kinds of soil but prefers deeper ones.

### **Acacia (locust tree)**

*Acacia (Robinia Pseudoacacia)* is a deciduous tree of two kinds: ordinary and umbelliferous. The ordinary kind has an unpredictable growth with an irregular and open crown. Its leaves are alternate and composite with a length of 10-15cm consisting of 7-19 leaflets. The ordinary type *Acacia* has fragrant flowers, is compatible and tolerates heat and cold well.

### **Laurel**

*Laurel (Laurus Nobilis)* is an evergreen plant which grows as a shrub. Its leaves are without teeth, hard, thick and bayonet-like. Due to their pleasant odor, its dry leaves are used as flavors in cooking. Its flowers are yellow and its fruits are black colored. Laurel prefers enriched limy soils and grows well even in shadows.



Fig . 2-92. Laurel (Fazelinejad, 2009)

**Silk or Shab-khosb**

Silk (*Albizzia Julibrissin*) is a deciduous tree with a wide crown and multi branched trunk but because of its silky, composite and delicate leaves, it is called Silk tree. Its leaves are alternate and composite with a length of 7.5-20cm and a width of 10-12cm. Silk tree tolerates heat easily and grows better in sandy, well-drained soils.

**Fig tree**

Fig (*Ficus Carica*) is a tree with a round and condensed crown and broad spread branches. Its leaves are simple and alternate consisting of 3-5 parts with a length of 10-30cm. It has a deep root and grows well in dry and semi-dry climates. Fig prefers deep limy soil but is able to grow in any soil.

**Turi**

Turi (*Lagerstroemia Indica*) is a deciduous shrub with a condensed and jar-like crown and simple, reciprocal leaves with a length of 2-5cm. Its flowers are white, pink or red colored and appear at the beginning of summer. It is compatible with heat and tolerates all kinds of soils.

**Zalzalak (wild plum)**

Zalzalak (*Crataegus Lavallei*) is a slim, deciduous tree with strong, condensed and thorny branches. Its leaves are simple, alternate, dented, ecliptic and pointed with a length of 5-10cm and a width of 2-4cm. Zalzalak has a deep root and resists coldness. Light limey or rich, sandy soils with optimal drainage are its favorite.

**Box tree**

Box tree (*Boxus Sempervirens*) is an evergreen shrub which serves as fence in *Bagh-e Chehel Sotun*. It has a slow rate of growth but a long age. Box tree is resistant to cold and heat and grows in all kinds of soil. It needs sufficient water and sunshine but prefers semi-lighted places. When used as a fence, its branch tips are cut by special scissors for more beauty.

**Ash tree**

Ash tree (*Fraxinus Velutina*) is a deciduous tree with a circular crown which is open when young and condensed when mature. Its light green colored leaves are composite and reciprocal with a length of 10-20cm. Box tree prefers moist, enriched soil but grows adequately in dry and alkaloid soil too.

In *Bagh-e Chehel Sotun*, these trees have been planted in an approximately 3200 square meters area which consists of 14 *Karts*. Southern section of the garden has been occupied partially due to street construction activities during recent decades. Therefore, the two sides of the symmetrical axis are not uniform and differ partially.



Fig . 2-93. The location of trees in *Bagh-e Chehel Sotun* (NHBI, Base)

### 3-1-2- Water

As other Persian Gardens, water plays the key role in the life of the garden. The most important manifestation of garden in *Chehel Sotun* is the pool opposite its palace which has found a close association with it. Pool dimensions are 16 by 108m. *Pirnia* say this about it:

"Sometimes, a large pool has been built instead of a water front as in *Chehel Sotun* of Isfahan. Of course, initially it was an area in which theatrical plays were shown."<sup>15</sup>

By reflecting the image of the columned portico, the pool creates the most important effect in the garden. The image is so attractive that many people conceive that *Chehel Sotun* takes its name from the reflection of columns on pool water surface which adds to the magnificence of the building. In fact a wonderful reflection of the sky and trees can also be seen in the central pool.



Fig .2-94. The pool in front of the palace (Fazelinejad, 2009)

*Chehel Sotun* is completed by a *Kampfer* says:

" The last part of the magnificent picture of *Chehel* pool with a width of forty feet and mirror-like, limpid water. Half the pool stands in front of the building and the other half right behind it and presently extends as far as the garden end. Anyone who observes innumerable fountains, floating birds upon the pool surface as well as the reflection of trees on water without enjoying such a sight, is really an ill-natured beast."

<sup>15</sup> Pirnia, M. K (1994); Abadi Magazine, No.15

And *Hilen Brand* says this:

"At first sight, *Chehel Sotun* looks like the columned portico of *Ali-Qapu* which has come nearer to the ground surface. Here, water is not separated from designing because a large rectangular shaped pool stands exactly opposite the building of the main section. In fact, the name of *Chehel Sotun* itself can be regarded as a visual trick and a multiple columned image reflected on water."<sup>16</sup>

From its other end, the pool reaches the main entrance of the garden on its eastern side. The same image is repeated again for the entering façade.

Due to the mild north to south and west to east slope of *Chehel Sotun* grounds, pool water circulated around the palace too. The waterway around the palace had a width of one meter with a three meters distance from the building. At entrance positions, small bridges stood on waterways.



Fig .2-95. The pool in front of the palace (Fazelinejad, 2009)

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<sup>16</sup> Hilen Brand, Robet (2004); "Islamic Architecture".



Fig .2-96. The course of circulation of water in *Bagh-e Chehel Sotun* and surrounding (NHBI, Base)

The main course of water supplying is a *Madi* which enters the garden from the west in the northern *karts* and exits it from its eastern side. This stream was a branch of *Fadyan* stream which after irrigating the garden, arrived into the northern side of *Naqsh-e-Jahan* Square from northern *Sepah* street and after crossing *Mulla-Abdollah* school, entered Isfahan neighborhoods situated north east of *Naqsh-e-Jahan* Square.



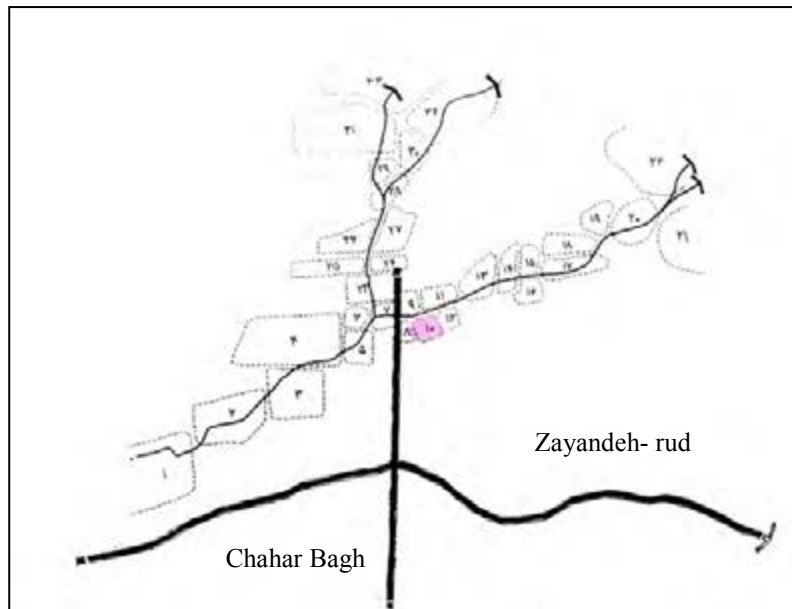


Fig .2-97. Fadyan Madi and *Bagh-e Chehel Sotun* (NHBI,Base)

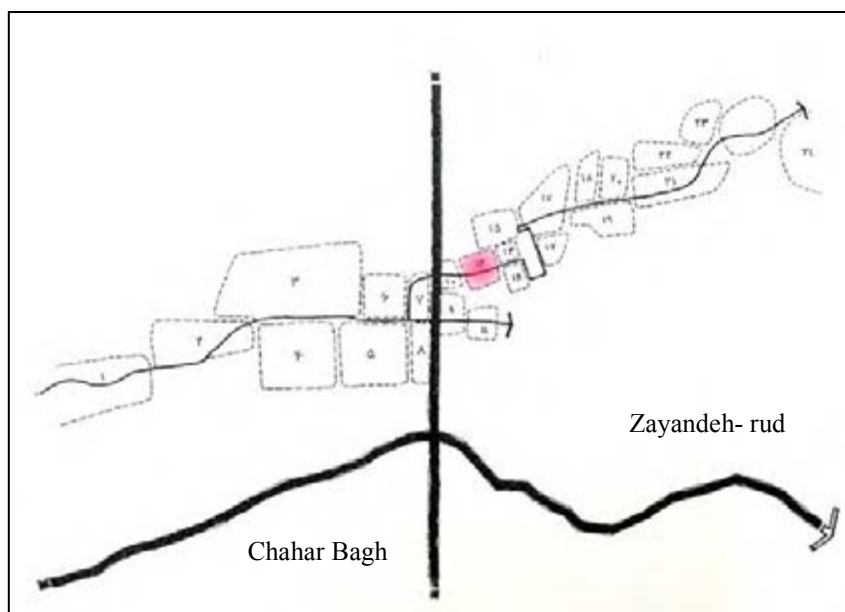


Fig .2-98. Joyshah Madi and *Bagh-e Chehel Sotun* (NHBI,Base)

### 3-2- Architectural Features

From a structural point of view, it can be said that the architecture of the middle building of *Bagh-e Chehel Sotun* has been designed differently from residential structures. Depending on individual functions, load bearing piers of such buildings have been reduced but instead the speed of operations has been given priority. Numerous ornamentations aim to increase its beauty and coordinate it with the surrounding garden environment without any intention for boasting its grandeur or glory.

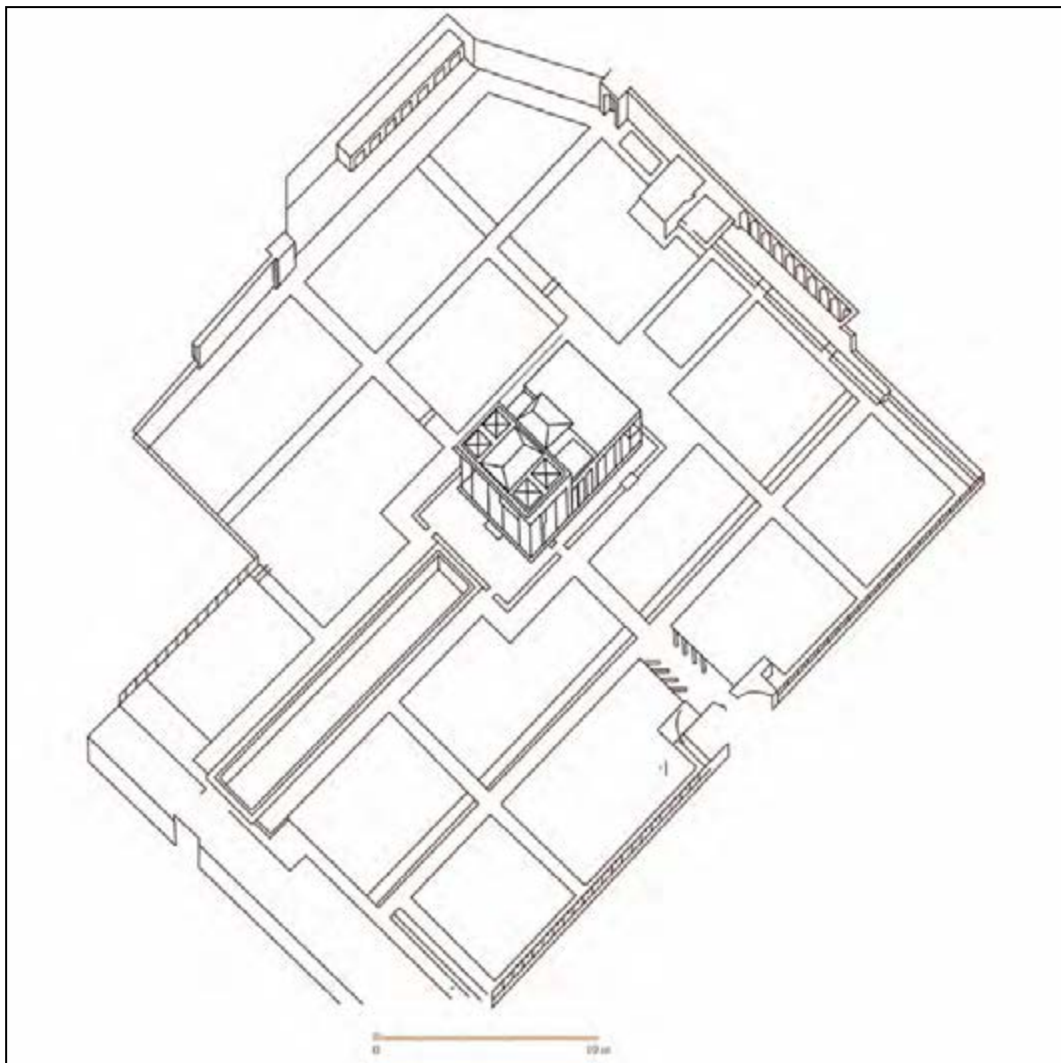


Fig .2-99. 3D of *Bagh-e Chehel Sotun* (NHBI, Base)

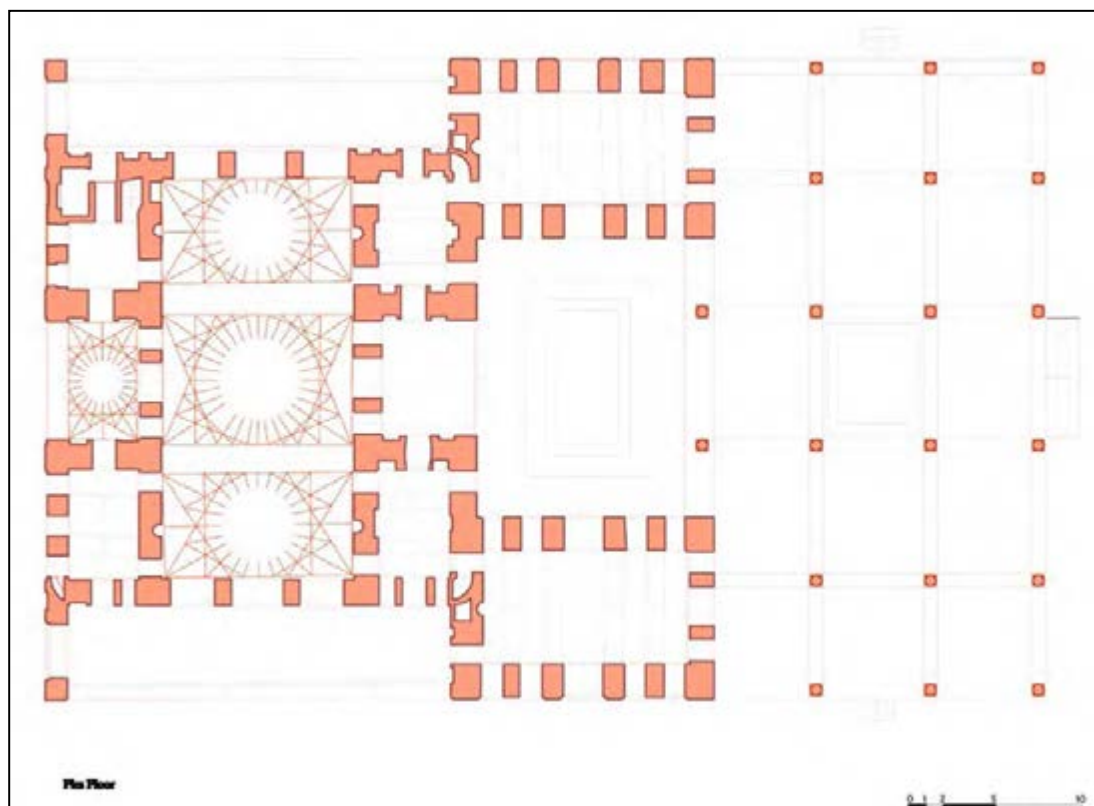


Fig . 2-100. Plan of *Chehel Sotun* Palace (NHBI, Base)

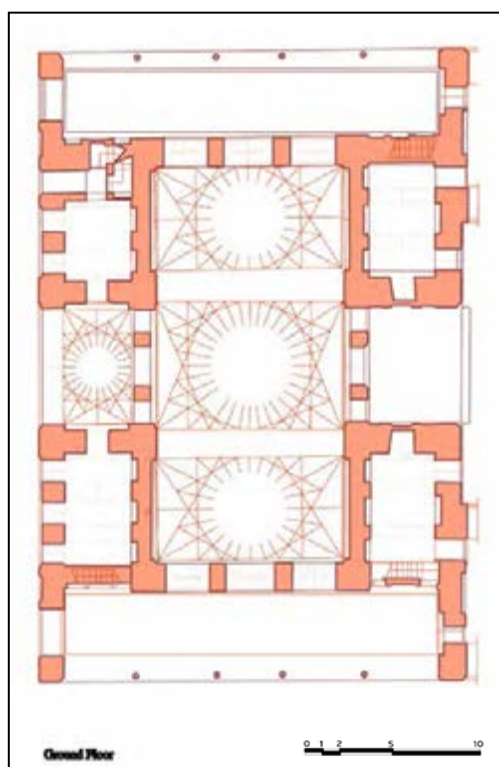


Fig .2-101. First floor plan of *Chehel Sotun* Palace (NHBI, Base)



Fig .2-102. The east facade of *Chehel Sotun* Palace (Fazelinejad, 2009)

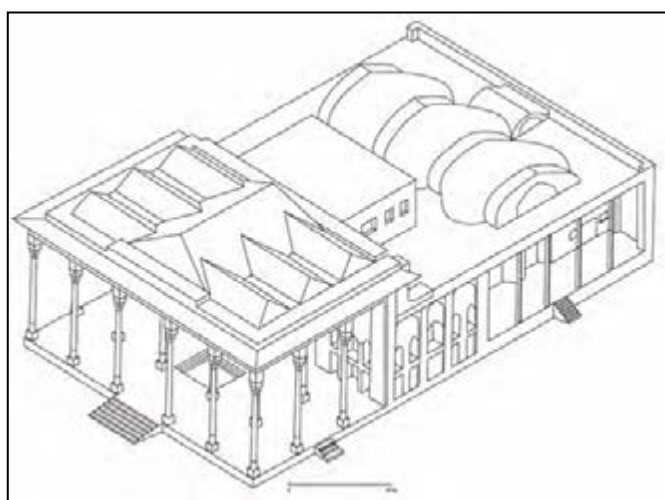


Fig. 2-103. Perspective of *Chehel Sotun* Palace (NHBI, Base)



Fig . 2-104. Jelo Khan hall (NHBI, Base)



Fig .2-105. Jelo Khan hall (Fazelinejad, 2009)



Fig .2-106. The north façade (Fazelinejad, 2009)



Fig .2-107. The north façade (Fazelinejad, 2009)

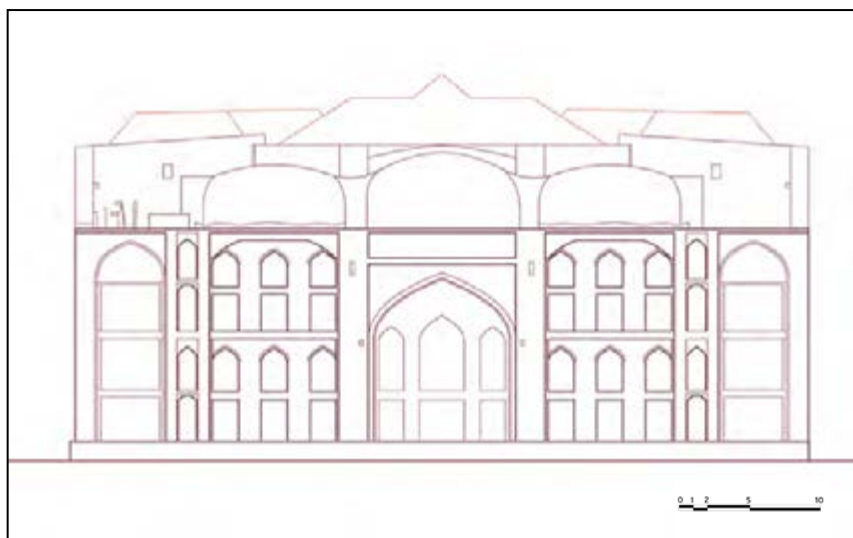


Fig .2-108. The north facade of *Chehel Sotun* palace (NHBI,Base)



Fig .2-109. The west façade (Fazelinejad, 2009)



Fig .2-110. The west facade of *Chehel Sotun* palace (NHBI, Base)



Fig . 2-111. The south façade (Fazelinejad, 2009)



Fig . 2-112. The south facade of *Chehel Sotun* palace (NHBI, Base)

In the words of *Wilfred Blant* in his book titled, *Isfahan The Pearl of Persia*:

" *Chehel Sotun* was constructed inside the *Bagh-e Shahi* exactly behind *Ali-Qapu* exclusively for holding state ceremonies particularly for receiving foreign agents during the rule of *Shah Abas II*."

In its original form, the palace consisted of a rectangular shaped hall whose roof was covered by three adjacent domes. Its peripheral rooms opened into the back of this hall opposite the

outward domes. The central dome had a fore-portico and a similar space at its backside. Such an idea has precedence as long as the *Firuz Abad* structure during the Sassanids rule. But the large, lateral portico which has access to all peripheral domes is considered as the most different section. The portico is actually the manifestation of access from the sides resulting in a more integrated building.

In next stage, a wide, open space with a central pond was constructed directly in front of the entrance portico. Long halls are seen beside this space that serve as old porticos. At last, a porch or hall with twenty columns and a gable roof is added to the former expanded structure. At its center was another small pond which was complemented by water jets. The nature of the structure changed in an evident manner with each addition. Its main nucleus is like a rectangular shaped hall parlor with three remaining domes in which the hall, its vast back space and ultimately the portico itself end. These subsidiary structures occupy the space more than the main section of the building. Each consecutive addition is higher than its predecessor, as a result the hall makes the main building look minuscule and inferior.<sup>17</sup>

Geometrical form of the building is quite regular and perfect. In addition all spaces are consisted of simple geometrical shapes. Spaces have a symmetrical arrangement relative to the longitudinal axis. But there are multiple latitude axes which have symmetrical relations with micro-spaces. The perfect geometrical shape is not only observed in the building as a whole but also in each individual space constituting the palace. The approximate dimensions of the palace are square-shaped except for the columned portico. The width and the length have a three to five ratio and the width and the height have a three to one ratio.

Therefore, the closed section of the palace except for the portico is a cube with a square shaped base and a height equal to one third of the base dimensions. These dimensions are quite similar to other palaces such as *Hasht Behesht* Palace. Even facades of three closed sections of the palace largely follow the pattern of facades in similar palaces with the exception of the eastern columned portico annexation which not only increases the length leading to the change of the width to length ratio but also elevates the height thus altering the base to height ratio. Ratio of the width of the columned hall to its height is nine to five. But in relation to the closed section of the palace which had a ratio of three to one or nine to three, two ninth of the width has been added to this height section after the closed section.

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<sup>17</sup> Hilan Brand, Robet (2004), "Islamic Architecture".



Subsidiary divisions shown in the façade contribute greatly to the generation of a human scale sense.

Of course with the exception of the columned portico section in which no divisions are seen in the façade, the ratio of columns dimensions to the height is in such a way that the magnificence of the building is highlighted.

### **3-2-1 Ornamentations**

Each one of the hall columns is actually a plane tree trunk which is now enclosed by a slender, painted board but formerly was covered with colored glasses and mirrors. All walls were decorated by beautiful paintings, colored glasses and full-length mirrors and all doors and windows were inlaid works.

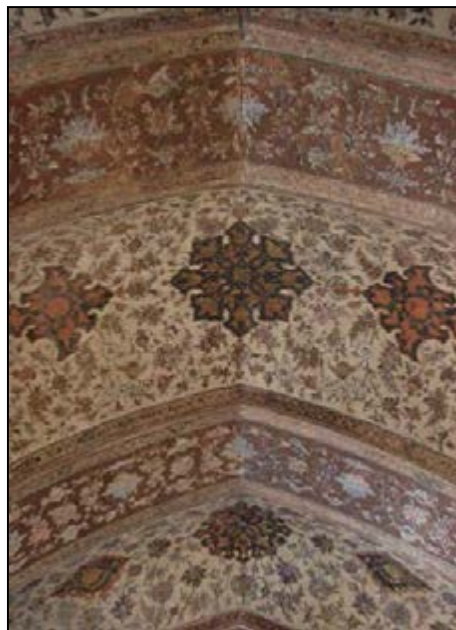


Fig . 2-113. Ornamentations inside the palace ( Fazelinejad, 2009)

Water jumping into the central pond of the columned hall from the mouth of four lions standing at four corners of the pool as well as stone jets on the course of the small stream flowing around the palace added to the pleasant atmosphere of the garden. There is not much consensus about the origin of the stone lions. Some attribute them to the Achaemenids and some to the Sassanids, the *Arsacides* and even to the *Deylamites* or the Safavids.



Fig . 2-114. Four lions statues at four corners of the pool (Fazelinejad,2009)

During pre-noon hours in which sun rays penetrated into the palace, exquisite curtains were hung around the great hall whose original spools still remain at several spots. Finally, the excellent painted ceiling in the eighteen-columned portico as well as the mirrored ceiling of the hall are two matchless samples of ceilings and are considered as interesting styles of arcading in Persian architecture.

Some existing items do not belong to the palace namely: four pedestals which stand at four corners of the pool and have been engraved as human and lion figures as well as two carved boulders made as four lions standing in two flowerbeds on either sides of the walkways entering the building and remains of two Safavids palaces by names of *Sar Poshideh* (Roofed) Palace and *Ayeneh khaneh* (Mirror House in *Farsi*) are seen which have been destroyed during the Qajars reign.

The painting themes of the royal parlor on the western side of the hall from right to left starting at opposite the entrance door are as follows: the banquet held by *Shah Abas the Great* and his reception of the king of Turkistan, *Vali Mohammad Khan*- Battle of *Chaldran* between *Shah Ismail I* and the *Ottoman* army (among annexations after the Safavids)-reception party of *Shah Tahmasb I* for the Indian king, *Homayun*.



Fig .2-115. The banquet by Shah Abas the Great and his reception of the king of Turkistan, Vali Mohammad Khan ( Fazelinejad, 2009)



Fig . 2-116. Battle of Chaldran (Fazelinejad, 2009)



Fig .2-117. Reception party of Shah Tahmasb I for the Indian king, Homyun (Fazelinejad, 2009)

Opposite these paintings on the eastern side of the hall from right to left: scene of one of the battles of *Shah Abas the Great* against the Uzbeks (the author thinks the painting is about *Taher Abad* battle in *Marv* between *Shah Ismail* and *Sheibak Khan* of Uzbeks), The battle of *Nader Shah* of *Afshar* against *Hindus* in *Kernal*( among annexations of the Safavids) and the assembly showing the reception of the king of Turkistan, *Nadr Mohammad Khan* by *Shah Abas II* (this painting has been hung exactly opposite the painting showing the banquet held by *Shah Abas the Great* and his reception of the king of Turkistan).



Fig . 2-118. Reception party of Shah Abas II for king of Turkistan (Fazelinejad, 2009)



Fig . 2-119 .Battles of Shah Abas the Great against the Uzbeks (Fazelinejad, 2009)



Fig . 2-120. The battle of Nader Shah of Afshar against Hindus (Fazelinejad, 2009)

On porticos of the either side of the hall, there exist pictures of famous European people and ambassadors who lived in the capital of Iran in that period but at present are not identifiable. A few pictures of Europeans hung in *Chehel Sotun* Palace are still available today. They are works done by two Dutch painters named Angel and Lokar who frequented *Shah Ismail* the second's court. Because of the king's great interest in painting, they were employed by the Dutch company's agent to be at his service.



Fig . 2-121. Pictures of famous European people in *Chehel Sotun* Palace (Fazelinejad, 2009)

On the southern side of the mirrors hall there exists another big room in which several miniature paintings attract attention. One of its more spectacular sections is an excellent stucco window which is regarded one of the masterpieces of its kind. The window has initially been cast in stucco and then its pores have been decorated with color glasses resulting in an exquisite and unique mixture. The window has been removed from another historical building called *Darb-e-emam* (Imam's door) and installed in its current position in *Chehel Sotun* building because of more security measures taken to guard it. The counterpart of the room on the northern side of the mirrors hall is another room with beautiful paintings whose original decorations is now exposed under the plaster coating.

During repairs of the year 1355 SAH in *Chehel Sotun* building, paintings of three rooms were uncovered from their plaster coating which is quite interesting. In one of these rooms, there exist twelve exceptional paintings depicting a large royal assembly as well as miniatures of *Shah Abas the Great* wearing his exquisite crown in addition to pictures, paintings and miniatures of golden floral designs. These are all works of the famous artist and painter of *Shah Abas* era, *Reza Abasi*.



Fig . 2-122 .Stucco window  
( Fazelinejad, 2009)



Fig. 2-123 . Gilt ceiling  
(Fazelinejad, 2009)

Until about the year 1300 LAH, these decorations kept their original conditions but since then this building as well as many other Safavids palaces suffered heavy damages. Moreover, many exquisite decorations of the building such as its full length mirrors, inlaid and engraved doors and its exquisite windows were plundered.

The ceiling of the great portico is covered by rectangular mirrors with colorful marginal friezes. Existing white walls were formerly mirror works with plinths made of engraved marble stones. Inside the two rooms on the either side of the large portico are seen a variety of pictures by *Reza Abasi* exposed out of their plaster coating which were subsequently repaired by a master painter called *Mirza Abdollah Naqqash* after slight transformations.

On either sides of the great portico, two engraved rooms are seen. Inside the northern room, there exist an inlaid door and an embossed pulpit belonging to the Safavids era as well as miscellaneous Seljuks and Safavids tiles and a gilt ceiling exposed out of the plaster coating. Inside the southern room, a few pictures are seen.

The two rooms behind these two with doors opening into northern and southern porticos have original, old paintings which were exposed out of their overlaying plasters in 1331 SAH. They depict a crowded banquet painted in Persian and Indian styles. Probably, they illustrate the wedding ceremony of *Reza Qoli Mirza* or the story of *Vamegh-o-Azra*. The high niche on

the right shows the picture of *Yusef-o-Zoleykha* and opposite it is seen the painting of *Khosro-va-Shirin*.



Fig . 2-124. Ornamentations inside the palace (Ghadiri, 2009)

The northern room which has been uncovered in *Dey* of 1334 SAH is in front of *Shah Abas* banquet painting which shows him sitting by a riverside wearing a *Gorji* hat and taking a wine cup from a cupbearer.

Above the alcove, there was a compartment in which the *Imam Hassan's Quran*, The treaty of *Ali-ebene-Abitaleb Ansari* as well as *Sheikh Safieddin Ardebili* cloak were formerly kept which have now been transferred to glass-windows inside the hall.

The hall has three exquisite, gilt and engraved domes with colorful *Lachaks* and bright golden patterns which are considered as excellent artistic masterpieces. The hall plinth which is currently coated by white plaster was previously covered by engraved tiles. All around the plinth top, 24 miniature pictures of gatherings were seen worked on plaster in which orgies were shown. Such pictures are among initial designs belonging to *Shah Abas* Safavi period which have been repaired and oiled in 1307 SAH without respecting their original styles. The Qajars king's picture, *Naserildeen Shah* drawn by *Mohammad Hassan Afshar-e-Naqqash* in 1276 LAH is seen beneath the *Lengeh Taq*. Four stoves have been installed around the hall in 1327 SAH with the assistance of the late stucco master, *Haji Ismail -e-Gachbor* and *Mirza Ali* designed in the old fashion style.

Objects seen in the hall mostly belong to the mausoleum of *Sheikh Safieddin Ardebili*, transferred from Tehran to Isfahan. In 1327 SAH, the second Pahlavis king, *Mohammad Reza Shah* inaugurated *Chehel Sotun* museum after opening *Kuhrang* tunnel. Upon three other porticos, Iranian and European portraits have been drawn clad in 17<sup>th</sup> century garments. Possibly, they belong to *French* and *Italian* ambassadors or princes and are works of Indian or Italian painters.

#### **4- Garden typology**

At its original form, *Chehel Sotun* complex has been designed as a pavilion structure with several rooms amid a garden. The initial building which was probably constructed on much older foundations has so small dimensions that seemingly it was not intended for residential purposes at all.

From an architectural point of view and considering its building materials and structure, *Chehel Sotun* cannot be regarded as a palace. So compared to other Persian palaces, it looks more like a *Bagh- Kushk*. Referring to historical documents and regarding the precedence of



foreign guests of *Shah Abas the Great* attending in this building as well as its function in that period, it must be conceded that the garden can be classified as a governmental garden.

#### **5- Some special and outstanding point about *Bagh-e Chehel Sotun***

Distinguishing *Bagh-e Chehel Sotun* from other gardens is the special architecture of its building which set such an example that has almost become a by-word in Farsi language. In other words, since its edifice the title of *Chehel Sotun* has permeated Persian literature and poetry. Furthermore, the collection of decorations and paintings used in the main building (because of its royal function) has turned this edifice into an exquisite and gaudy monument whose decorations are almost matchless among other Iranian samples.

## **Bagh-e Fin - Kashan**

### **1-Introduction**

Kashan City is located in Isfahan province with an area of about 2100 hectares and has an altitude of approximately 950m above sea level. Geographical coordinates of Kashan are: 51°, 27' eastern longitude and 33°, 59' northern latitude. The terrain on which Kashan is situated ends in desert and mountain from opposite sides. In lowlands, it is warm, dry and dusty but in highlands it is cool and moderate. The temperature difference resulting out of height difference generates mild currents such as daily breezes which blow from the plain as well as nightly breezes which blow from mountains. These breezes make days drier and warmer and nights cooler.<sup>1</sup>

Regional mountains are located in a northwest to southeast direction. The highest peaks are east of *Niasar* with a height of 3600m, south of *Barzhak* with a height of 2500m, *Haft-kotal* with a height of 3000m and *Karkas* with a height of 3800m. Winds known as *Sorkh* (red), *Shahriari*, *Saam*, *Shomal* (northern) and *Qebleh* are among famous regional winds which mostly blow towards Kashan from desert.<sup>2</sup>

Regarding general geological topology of the region, central highlands of Iran are located south of *Qom-Kashan-Natanz* motorway in the form of a relief known as the Southern Mountain Ranges of Kashan in a northwest to southeast direction. The oldest geological formation in the vicinity of Kashan is Indesits formations dating back to *Eusen* era of Tertiary age. In a wide area of mountains south of Kashan, *Tuff* stones as well as Basic Indesits and *Ultravasics* are spread out which have a volcanic origin. These volcanoes were active undersea during the third geological era and their outputs have been deposited on sea floor as *Tuff*, ash etc...

According to geophysical studies conducted, alluvial layers have a thickness of 150m which gradually declines toward the northern desert. Beneath such depositions, *Miocen* layers with low permeability have given rise to underground tables that are the main source of water reserves in mountain foot. Fin spring is one of them.<sup>3</sup>

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<sup>1</sup> Jeyhani, Hamid Reza ,Omrani,Mohammad Ali (2007), "Bagh-eFin".

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

*Bagh-e Fin* is in a village with the same name. *Fin* region consists of large and small. *Bagh-e Fin* located at a distance of six kilometers south west of Kashan on the side overlooking the nearby mountain. The garden is in small *Fin* which has a geographical longitude of 23' and 51° and an altitude of 1050m above sea level. Due to its mild weather and numerous trees, *Fin* is one of the best resorts of Kashan area whose water is supplied by the famous *Soleymanieh* spring which is nearest to it compared to other parts of the region.<sup>4</sup>



Fig . 2-125. Aerial photo of *Bagh-e Fin*, 2009, Google Earth

<sup>4</sup> Jeyhani, Hamid Reza ,Omrani,Mohammad Ali (2007), "Bagh-eFin".

**2-Name of the Garden: *Bagh-e Fin***

Because of the nearness of *Fin* area to the famous gushing *Soleymanieh Spring* as well as the location of *Kashan* in a hot and dry region, since ancient times it has been favored by kings and governments of the time. In fact, *Sialk* civilization originated here.

Existence water sources and fertile lands have led to the idea of constructing a place for excursion and relaxation in the area by kings. As a result, during the reign of the *Buyid* dynasty a garden was built at a distance of 500m from the present garden which was known as the Old *Bagh-e Fin* whose traces still remain.

Visiting of *Bagh-e Fin* by several kings shows its importance, examples of which are: audiences given by the founder of the Safavids dynasty, *Shah Ismail* in the year 909 SAH also by *Shah Abas* in 925 SAH as well as other kings such as *Shah Safi*, *Shah Soleyman*, *Karim Khan-e-Zand* and *Naserolddeen Shah* of Qajars. The attention given to *Bagh-e Fin* has led to the gradual development of the complex in the course of time.

Here the proximity of the climate and the architecture is manifested in the compatible usage of water, plants and building materials. Some distinctive features of the garden are: exploitation of *Fin* spring water for water supplying of the garden, selection of plants specific to the region in particular *Fin* cedar trees and finally the usage of generally mud and brick building materials suitable for the regional weather conditions.

On the other hand, there exists a system forming the body and the spatial structure of the garden enforced in all levels in which the gardening design, water and architecture form in a united and integrated and create the garden complex as a whole.

**2-1- Location of Geographical****1a. Country (and State Party if different):** IRAN**1b. State of province or region:** ISFAHAN (Kashan)**1c. Name of Property:** *Bagh-e Fin***1d. Exact location on map and indication of geographical co-ordinates:**

E: 51° 22' 20.53"; N: 33° 22' 20.53"



Fig. 2-126. Location of Kashan in Iran map (NHBI, Base)



Fig. 2-127. General view of Bagh-e Shahzadeh Mahan

### 3- Features existing in the garden

#### 3-1- Natural features

##### 3-1-1- Garden plants

###### 3-1-1-1-Plants<sup>5</sup>

Plants of *Bagh-e Fin* are intended to: cast shadows, harvest crops and also for decorative purposes. But the majority of plants have always been adumbrate and fruit bearing ones with less priority given to flowers and decorative plants. Adumbrate trees are mostly *Kashi cedars* (*Cupressus Senperviren*) and plane-trees (*Platanus Orientalis*) and a very limited number of white poplars planted on the margin of *Karts*.

At present, there are seventeen major *Karts* in *Bagh-e Fin* whose margins are lined by cedar trees. In addition, at the middle of the garden on the either side of the path leading to the main pavilion are two symmetrical rows of big cedars with a few plane trees in between. A few lines of cedar trees can also be seen on either sides of the museum building. At the south western corner of the garden near *Fatali Shahi* pavilion are two continuous lines of old *cedar trees* amid which two very famous old *cedars* known as *Leyli* and *Majnun* are distinct.

Different types of cedar and plane trees are seen along the main walkway, particularly around *karts* as well as along *Fatali Shahi* street.

Inside *Karts* was allocated to planting various fruit trees but at present only a handful of trees remain such as: fig, mulberry, pear, pomegranate, willow, quince, greengage, apricot as well as decorative types of trees such as decorative service tree. Among the most important trees are a few old mulberry trees planted in front of the entrance of the garden inside a separate flowerbed. A few significant *mulberry* trees are also seen in the vicinity of *Zananeh* spring. Only one pear tree is seen in the garden which is of a type specific to *Fin* region. Fig and pomegranate trees have grown wildy in *Bagh-e Fin*. Quince trees brought in recently have been planted on either side of walkways leading to the pavilion so that a corridor has been made by them. Furthermore, young trees have been planted at other garden sections such as behind the museum building. Fig trees are mostly seen amid cedar trees at *Kart* margins inclining inside slightly. Most of pomegranate trees have now vanished and the few remaining ones have grown wildy and are predominantly barren. A similar condition applies

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<sup>5</sup> Jeyhani, Hamid Reza ,Omrani, Mohammad Ali (2007), "Fin Garden".

to apricot and greengage trees. Amid willow trees as well as along one walkway extending from the entrance to the pavilion are seen a few pussy willows (*Salix Aegyptiaca*).

Amid *Karts* were planted trees known locally as bitter service trees. Additionally, in recent years box trees and *Terons* have been planted at the foot of Cedars.

Another portion of garden plants consist of decorative flowers and plants which are usually planted on the border or inside the garden *kart* located in front of the Safavids *pavilion*. Various types of rose flowers are seen among bushes and flowers of *Bagh-e Fin*. Another beautiful type of flower is *Akhtar* flower which is considered as one of the oldest kinds of flowers grown in *Iran*. Among seasonal flowers, marigold is planted in late winter and French marigold is planted early summer.

Garden space as understood today is influenced greatly by its plants concerning such aspects as form, quality and scale. Particularly, adumbrate trees which are largely consisted of cedars have been always affective in the formation of garden space since a long time ago.

At a macro scale, cedar trees planted in close rows have in fact created long massive entities with a major outward effect upon the construction and presentation of the volume and general shape of the garden. These tree lines have complemented the wall and fortification of the garden at their most external lines setting the example of a composite rampart.

Moreover, they play a key role in representing a unique vision of the garden and more importantly show its internal identity.

Definition of space and space making by trees is also evident at the interior space of the garden. Among the most important spaces in which adumbrate trees play a role in their definition are the garden main axis and its middle *Kart* which is delineated on one side by major structures such as the entrance, the middle pavilion and the Safavids alcove and by adumbrate trees on the other side and creates the spatial foundation of the garden. Doubtlessly, such a foundation has found a more vivid description by the line of old cedar trees which have been planted at its borders in a specific regular order and with a certain intention. Presently, a row of box trees planted alongside cedar tree lines help to define the main space of the walkway.

At a micro scale, space definition and space making is represented by plants inside flowerbeds surrounding the pool which grant the garden a distinct personality. Moreover, main and subsidiary walkways ending in this space have created a kind of visual openness.

On the whole, the role of cedar trees is quite clear in forming various spaces inside *Bagh-e Fin*. Like other Persian gardens, one of the major principles of garden making here has been the openness of elongated rectangular shaped landscapes. Repetition of these trees and the rhythm generated by them affects the definition of the above mentioned spaces.

In addition to all the issues cited before, *Bagh-e Fin* plants contribute to the expansion of other aspects such as qualitative ones, which include the landscape quality of its space. Another aspect provided by plants in *Fin* is the comforting aspect. *Bagh-e Fin* was used as a harbor to get relieved from life difficulties although temporarily which was achieved with the help of its plants. These plants provide optimal conditions inside the garden in various levels. At the first level, tall trees have separated the garden space from its surroundings by making a micro-climate and preserving in adequately. The shape of spaces generated by adumbrate tree lines has an impact upon the inner behaviors of this microclimate including: air currents, light and shade effects and creation of pleasant spots inside the garden which are suitable for summer and winter residency.

The second level is consisted of fruit trees and the third level comprises decorative flowers and bushes that are planted within immediate access inside flowerbeds or near water canals to create places for individuals to spend their time pleasantly in particular during hot summers.

Concerning the planting system and arrangement, the most effective plants forming the garden were adumbrate trees which has said before mostly consist of cedars. Aside cedar trees, there exist plane trees and willows with the latter planted at north western and north eastern margins of *Bagh-e Fin*. In addition to adumbrate trees, the planting system of the garden also depended on fruit bearing trees, bushes and flowers. At present, within the main arena of the garden, cedar trees are seen together with other adumbrate species such as plane trees and white poplars which have been planted around seventeen *karts* and four longitudinal flowerbeds adjacent to *Fatali Shahi* pond house as well as along the main walkway in between the entrance and the middle pavilion. The total number of such trees contributing to the planting system of the garden amounts to 592 trees consisted of 11 plane trees, two white poplars and several cedar trees.



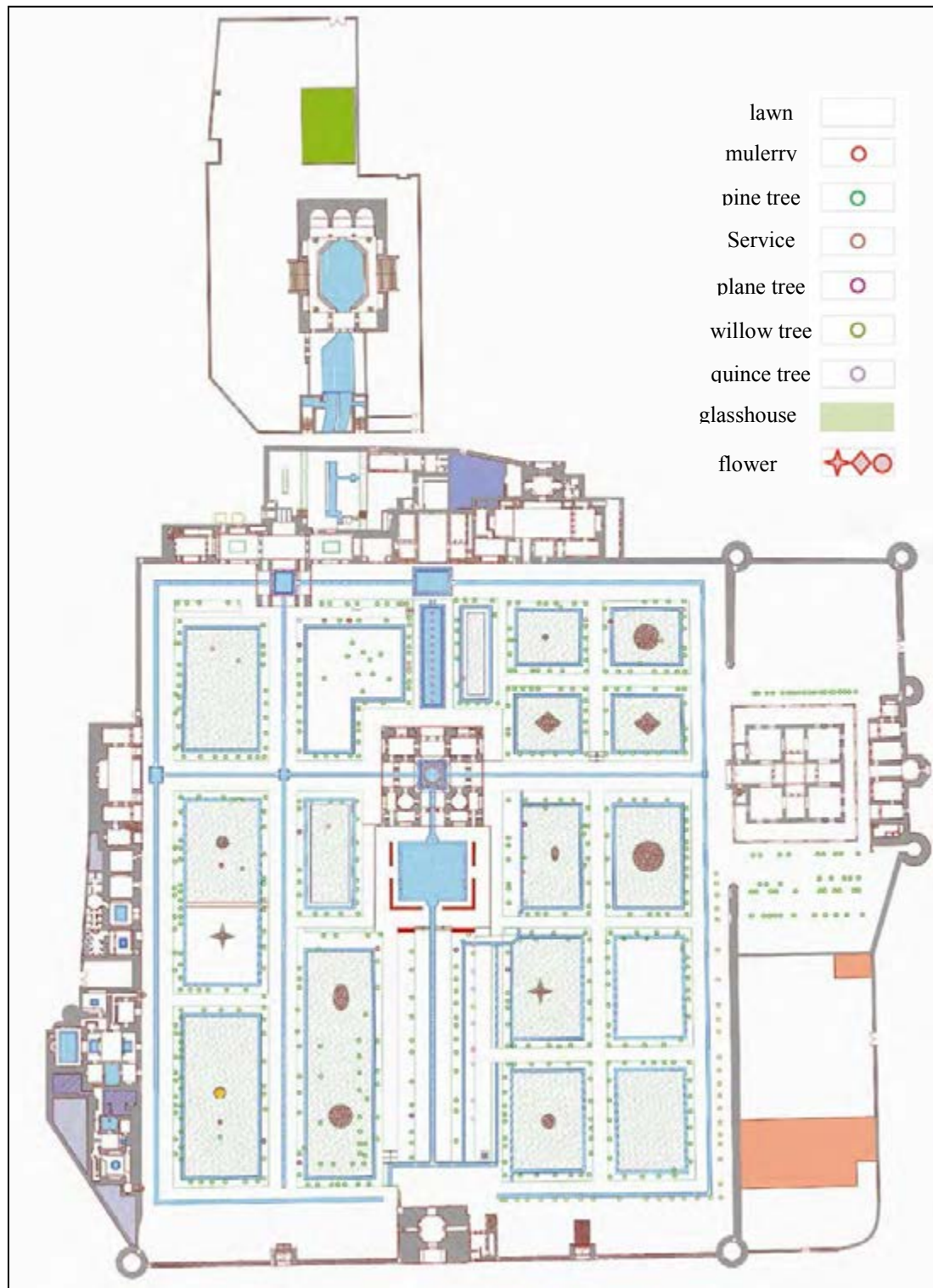


Fig. 2-128. Map of the variety of *Bagh-e Fin* plants (NHBI, Base)



Fig. 2-129. *Platanus Orientalis* trees  
(Khoshnood, 2009)



Fig. 2-130. *Cupressus Sempervirens* trees  
(Khoshnood, 2009)



Fig. 2-131. Willow trees (Khoshnood, 2009)



Fig. 2-132. Plane trees (Khoshnood, 2009)



Fig. 2-133. Box trees (Khoshnood, 2009)



Fig. 2-134. Marigold (Jayhani,2007)



Fig. 2-15. Quince tree (Khoshnood, 2009)



Fig. 2-136. Decorative flowers (Khoshnood, 2009)

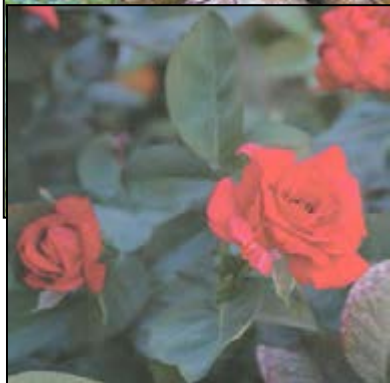


Fig. 2-139. Rose Flower (Jayhani,2007)



Fig. 2-140. Marigold (Jayhani,2007)



Fig. 2-141. Akhtar flower (Jayhani,2007)



Fig. 2-142. Old cedars known as Leyli and Majnun (Jayhani, 2007)



Fig. 2-143. Uince Bloom (Jayhani, 2007)

### **3-1-2- Water**

#### **Fin Spring**

As mentioned earlier, based on geophysical investigations conducted, alluvial strata have a thickness of 150m which gradually decreases toward the northern desert. Beneath such depositions, Miocene strata with low permeability have given rise to underground tables that are the main source of water reserves in mountain foot. *Fin* spring is one of them.<sup>6</sup>

*Fin* spring originates from the depth of cliffs known as *Dandaaneh Mountain* at the heart of boulders of a lime and gypsum mine located three kilometers south of *Bagh-e Fin* with an output of about 150 liters per second. Also known as *Solymanieh* Spring, *Fin* Spring is beside

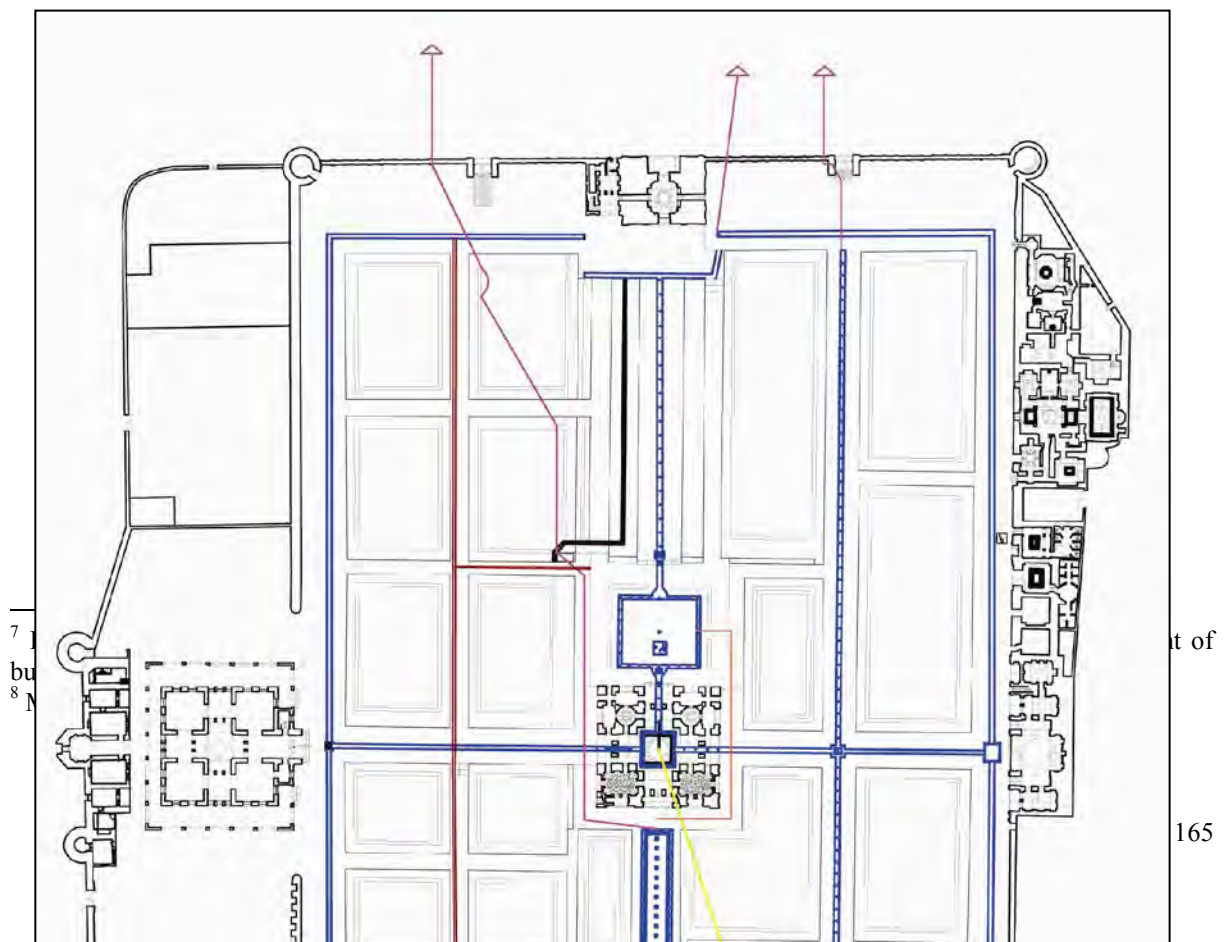
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<sup>6</sup> Sarukhani, Zahra (2006); "Preliminary Report for Registration as a World Heritage Site, Kashan-Fin-Sialk cultural axis".

the remains of one of the oldest civilizations of the world (*Sialk* civilization) as well as *Bagh-e Fin* and the green village of *Fin*.<sup>7</sup>

On the way of water current from *Dandaaneh Mountain* foot as far as *Soleymanieh* spring, two major historical monuments (floodgate or *Seilband* in Farsi) are seen. One of them is still standing but the other has been completely destroyed. These floodgates which are very old have been constructed on *Khonb* and *Darreh* rivers in order to prevent the destruction of *Bagh-e Fin*. They are made of stones and mortar. From the appearance of the first floodgate structure it can be concluded that its construction dates back to early Islamic era or even before it. The second floodgate which is more formidable has been built during the Safavids reign.<sup>8</sup>

From the spot where the spring water gushes out as far as its emergence spot (*Mardaaneh* headspring) there exist seventeen wells at relatively equal intervals through which the water passes.



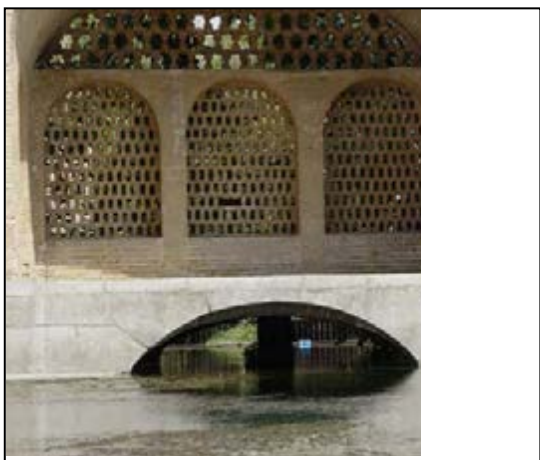


Fig .2-145. Latah-Gaah, Soleymanieh Spring (Khoshnood, 2009)



Fig .2-146. Latah-Gaah (Khoshnood, 2009)

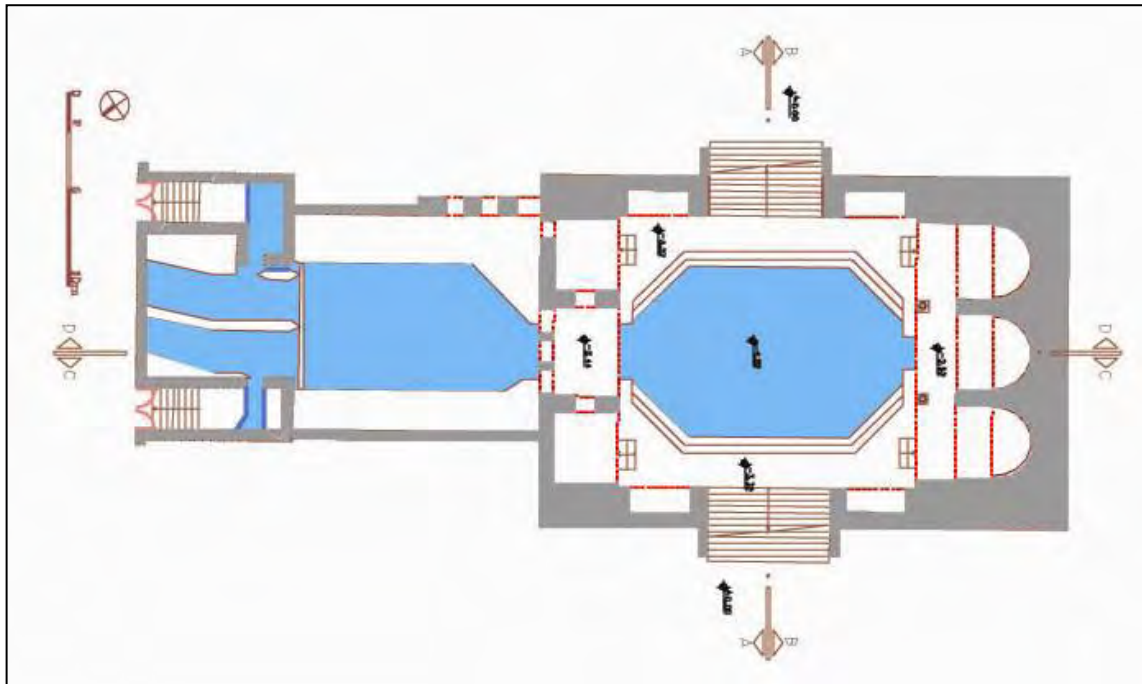


Fig 2-147. Mardaaneh (men's in Farsi) spring (NHBI, Base)

At the emergence spot of the spring, there exist a large basin (The place that water be collected in it) and a *Howz Khaneh* known as *Mardaaneh* spring. After flowing an approximate distance of two kilometers, spring source which is called in local tongue *Lateh-Gaah* (*Lat* in *Fin* dialect is used to call the water division point). Here, the water is divided

into two main branches. The first passes by the eastern back wall of *Bagh-e Fin* and is directed toward *Kalantar* watermill but the second branch enters *Zanaaneh* spring. Water arriving into *Mardaaneh* (men's in *Farsi*) and *Zanaaneh* (women's) springs, goes through all main and subsidiary water courses of *Bagh-e Fin* before heading out towards nearby farms, gardens and mills of the little and the large *Fin* villages. Within *Fin* waterworks, by using ceramic pipes (called *Tanbusheh* in *Farsi*) fountains have been installed at equal intervals which circulate the water all around the garden at vertical axes.

The pool existing in *Mardaaneh* spring is hexagon-shaped with a perimeter of four meters and a depth of 1.35m. Water enters into the pool from its southern side via a mouth with a length of 1.55m before diverting into a stream with a width of 3.5m. Here, one of its branches splashes into the second unroofed *Howz Khaneh* (*Zanaaneh* spring) and then via invisible routes is directed towards three important spots which are:

- 1- Safavids *Howz Khaneh* or *Shah Abasi Shotor Galu*
- 2- The second spot in which spring water emerges directly is at the end of the main axis, opposite the alcove and inside the *howz-e Joosh*
- 3- The third spot is the Qajars *Shotor Galu* or *Howz Khaneh*.

Water flowing from three different spots into the garden not only highlights the importance of direct connection to the main headspring but also intends to make special effects of water gushing, fountain and cascading based on forces of gravity, water speed and pressure within a natural system.<sup>9</sup>

The water system is part of the garden organization which has been envisaged and formed within a planting and cultivating system. The main axis extending from the entrance to Safavids *Shotor Galu* as far as the *Shah-Neshin* (alcove) structure is the most important garden axis and consequently the most important axis for water manifestation. The greatest volume of water also runs upon this axis as well as either sides of the Safavids *Shotor Galu*. In fact, upon this axis, the twelve-fountain *Howz* upstream of Safavids *Shotor Galu*, its front pool and its downstream pool announce the dominant presence of water in the main walkway and the middle *kart* of *Bagh-e Fin*.<sup>10</sup>

But for water circulation inside the garden, it must be said that a branch of water enters Qajars *Shotor Galu* via a subterranean conduit. The over flowed water supplies water needed

<sup>9</sup> Jeyhani, Hamid Reza & Omrani, Mohammad Ali (2007), "Fin Garden".

<sup>10</sup> Mostafavi, Mohammad Taghi (1955); "A corner of Paradise in the desert, Fin Garden".



by fountains fronting the *Shotor Galu* via the duct inserted in *Howz* body accompanied by eastern and western streams. The eastern stream flows towards the frontispiece house of the garden after joining the rectangular shaped stream which has a mild slope. Then at the intersection of the library subsidiary axis enters the square shaped *Howz* before moving towards garden north. After conjoining with the tiled stream east of the Safavids *Shotor Galu* in a crossing, the northern stream circles around a marble *Howz* to supply water used by fountains inside the second section of the northern axis branched off Qajars *Shotor Galu* (from the crossing as far as the main exit stream of garden water) and continues its way towards the frontispiece house.<sup>11</sup>

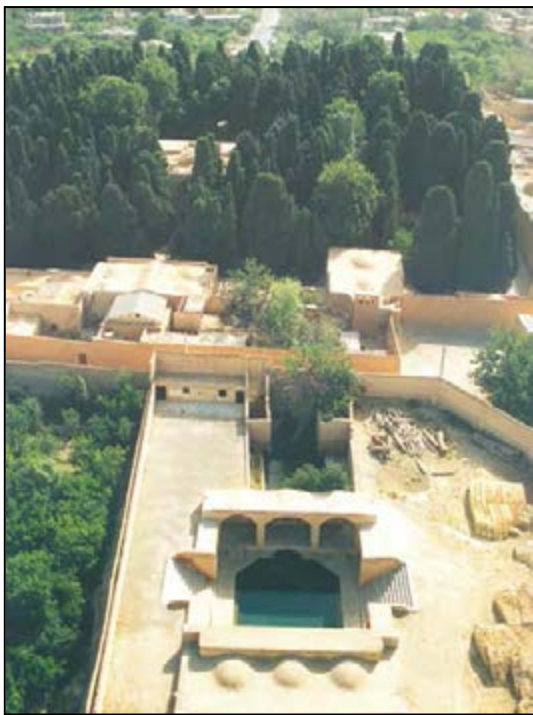


Fig. 2-148. Mardaaneh (men's in Farsi) Spring (Jayhani,2007)

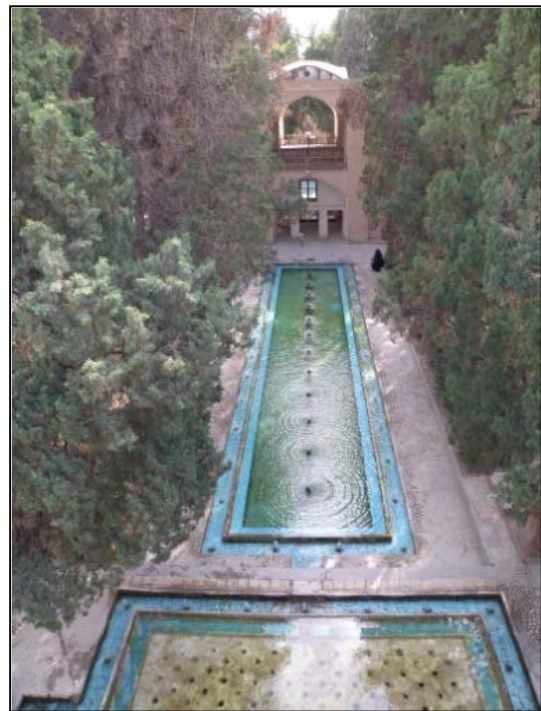


Fig .2-149. Howz-e Joosh and 12 Fountain Basin (Khoshnood, 2009)

<sup>11</sup> Farrokh-yar, Husein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".



Fig. 2-150. The aqueduct that conduct the water of the Fin Spring (Khoshnood, 2009)



Fig .2-151. Howz-e Joosh (Khoshnood, 2009)

The second section enters the *Howz-e Joosh* after passing beneath the *Shah-Neshin* (alcove) filling it with water as well as supplying the water needed for pool fountains fronting it (the long pool also known as the twelve fountain pool) Its over flow conjoins the western stream of Qajars *Shotor Galu* via the tiled stream, flowing toward the western side of the garden and after traversing a south western and southward route, intersects the over flow water west of Safavids *Shotor Galu* at the middle of the western front (opposite the museum) before joining other branches in front of the portal.<sup>12</sup>

The third section goes into the Safavids *Howz Khaneh* via an underground canal and supplies the water needed by its surrounding fountains via *Tanbusheh* (terracotta pipes). The rest of the water conjoins the water of the stream coming from Qajars *Shotor Galu* entering the large pool at its opposite. The water of the large *Howz* enters fountains installed around the large *Howz* via subsidiary underground canals and by way of an open stream directly branching off

<sup>12</sup> Farrokh-yar, Husein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

the pool and another canal inside the pool, supplies the water of fountains installed in the main walkway of the garden before being directed out of it.<sup>13</sup>



Fig .2-152. Safavids Shotor Galu (Khoshnood,2009)



Fig .2-153. The water division point in front of Safavid Shotor Galu (Khoshnood, 2009)

In addition to the above mentioned routes, there are also several subsidiary water course which are connected to main canals during irrigation times and supply the water needed by garden trees.

In the end, waters of all these streams join together and exit from opposite the entrance portal of the garden. Spring water flow reunites outside the garden and eventually irrigates other gardens and farms of Fin and its suburbs after local divisions.

On the other hand, the presence of water in the garden can be regarded from another point of view:

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<sup>13</sup> Farrokh-yar, Husein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

### **Landscape Aspect**

- 1- This aspect is one of the most important aspects of the water which with the help of other features seeks to create an allegory of paradise on earth. Considering water presence in *Bagh-e Fin* from a landscape point of view, several points can be cited:  
First of all the fluidity of the water represents the transparency of spaces and the unity of garden space. Fluidity complements a link of water aspects in the garden beside water gushing which suggests the concept of spring as well as water resting.
- 2- The interaction of water system and garden floor provides an appropriate bed for the presence of holy water by scraping the bed ground.
- 3- The dominant color composition of the visible part of the water system is noteworthy irrespective of its aesthetic unifying effect as well as in relation with other dominant colors of the garden.

### **The Freshening and Life-giving Aspect**

*Bagh-e Fin* on the edge of desert has been transformed into a heaven of trees and other plants which cause its vitality and vivacity. The presence and distribution of water in various levels and at all nooks and corners not only enhances the landscape aspect but also increases local air moisture and coolness particularly during warm seasons.

### **The Audio Aspect of Water Presence**

Water melodies and symphonies are an integrated part of the garden space utilized by garden designer. Water shortage has enhanced the Iranian interest in its watching resulting in a diversity of innovations by local designers. In order to represent water more optimally, different features such as fountains, ponds, pools, brooks, etc...have been used resulting in better achievements in showing water volume as well as eliciting various water symphonies in *Bagh-e Fin*. By the way, whenever necessary making extra unwanted noises has been avoided.

**The Functional Aspect of Water Presence**

The most major functional aspects of water presence are the irrigation of trees and other plants. Additionally, water is also used for cleaning purposes. *Bagh-e Fin* bath houses with their sophisticated waterworks are significant in this respect.

**The Spiritual Aspect of Water Presence**

The water motion in the garden indicates meanings such as transiency, a sense of novelty as well as the freshness concept. Water makes possible contemplation about existence. Probably for this reason The great Persian prophet, Zoroaster used to teach his followers inside a garden.

The major principle of the Persian Garden is the veneration and sanctification of water for which a space has been created and adorned with trees and flowers in order to represent a symbol of existence.

The Persian Garden is an interpretation of paradise and water presence inside it is actually a metaphor for a Holy *Quran* verse mentioning streams flowing in paradise.

Arrangement of water streams and their motion towards the four sides of Safavids *Howz Khaneh* has also pointed to this issue.

Different forms of water presence generate various feelings in man. For example, fountain are metaphors for the fountain of life or a pulsating heart and also serve as allegories indicating the ups and downs of life. The form of water presence in *Bagh-e Fin* links various features of the garden together. After passing open and closed spaces, the water reveals the integrity and unity of the garden totality in a systematic framework which in a sense is reminiscent of the unity and solidarity of the world.

### 3-2- Architectural Features

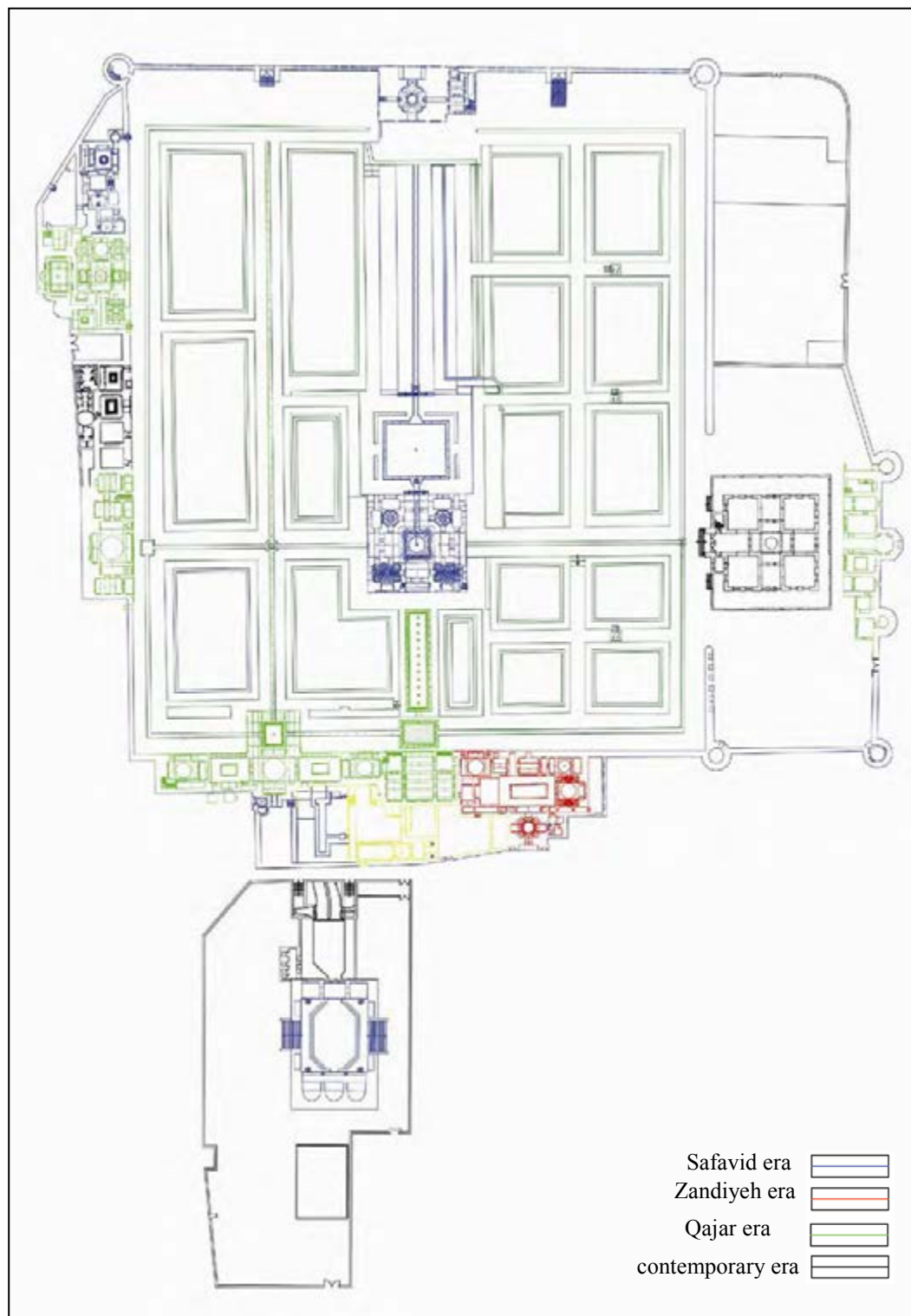


Fig . 2-154. Process of development of *Bagh-e Fin* (NHBI,Base)

**3-2-1- The Main Pavilion of the Garden (*Shah Abasi Shotor Galu*)<sup>14</sup>**

After entering the garden and passing a pleasant walkway amid which there is a beautiful water stream with turquoise fountain of water and cedar tree lines alongside, the first building to be noticed is *Shah Abasi Shotor Galu* constructed by the order of *Shah Abas the Great*. This structure serves as the focal point of main axes which is linked to *Karim-khani* private house and *Shah- Neshin* (alcove) in the south, to the entrance in the north, to the library building and bath houses in the east and to museum building in the west. Opposite the main pavilion, there exists a large pond and a small back pond in which water gushes out of its floor. The pavilion has been constructed in two stories in which the second floor has several corridors. It has been constructed in such a way that entering is possible to it from all sides of the garden. In the middle of the building, there is a small pond which based upon afore mentioned descriptions of garden waterworks part of the *Fin* spring water directly gushes out of this bath house via an underground canal which in addition to filling the pond supplies water needed for fountain operation. Ablution of *Shah Safi* and *Amir Kabir* were performed inside the bath house of this *Shotor Galu*. Plinth courses of the building have marble stone facades. This large building which has undergone several lifting is made of mud brick with a façade of sun dried bricks and tiling. Its Plinth courses are covered by high quality marble stones and its floor has been paved and enjoys relatively good strength. A beautiful pavilion stood upon this building.

Several travelers have described the building and have drawn pictures of it. *Eugen Falnden* says:

"A beautiful pavilion stands upon this building which is located in a garden under the shadow of cedar trees. Cool drinking water of a spring at the back of the castle structure makes it more pleasant."

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<sup>14</sup> Farrokh-yar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

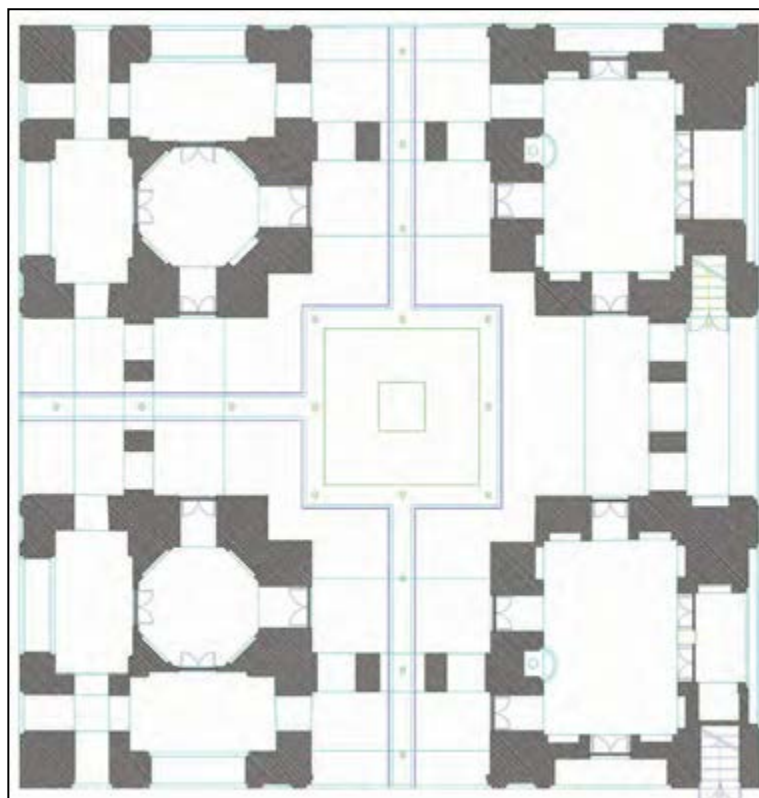


Fig .2-155. Plan of Ground Floor (NHBI, Base)

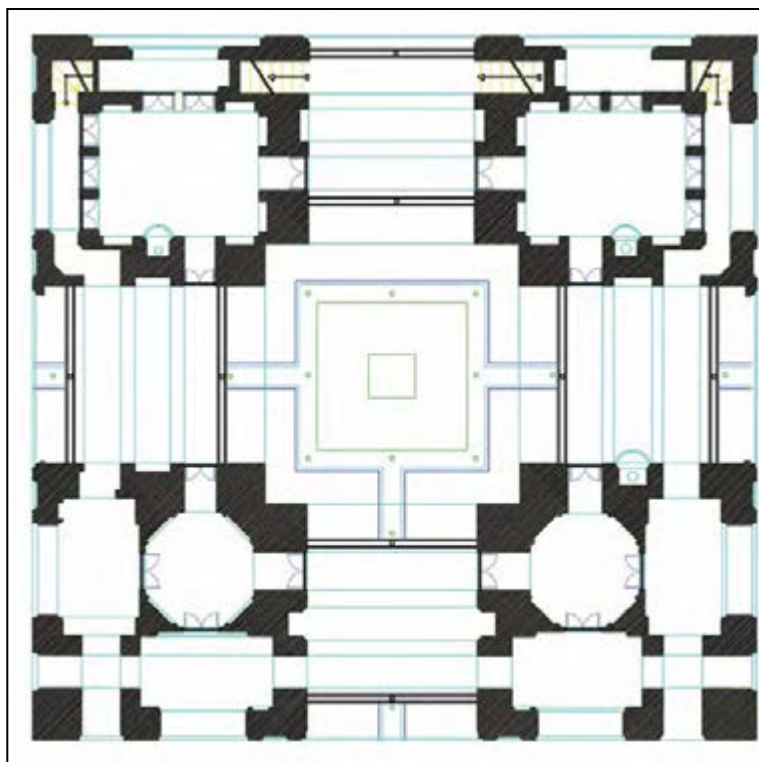


Fig .2-156. Plan of First Floor (NHBI, Base)





Fig .2-157. Shah Abasi Shotor Galu (Khoshnood, 2009)

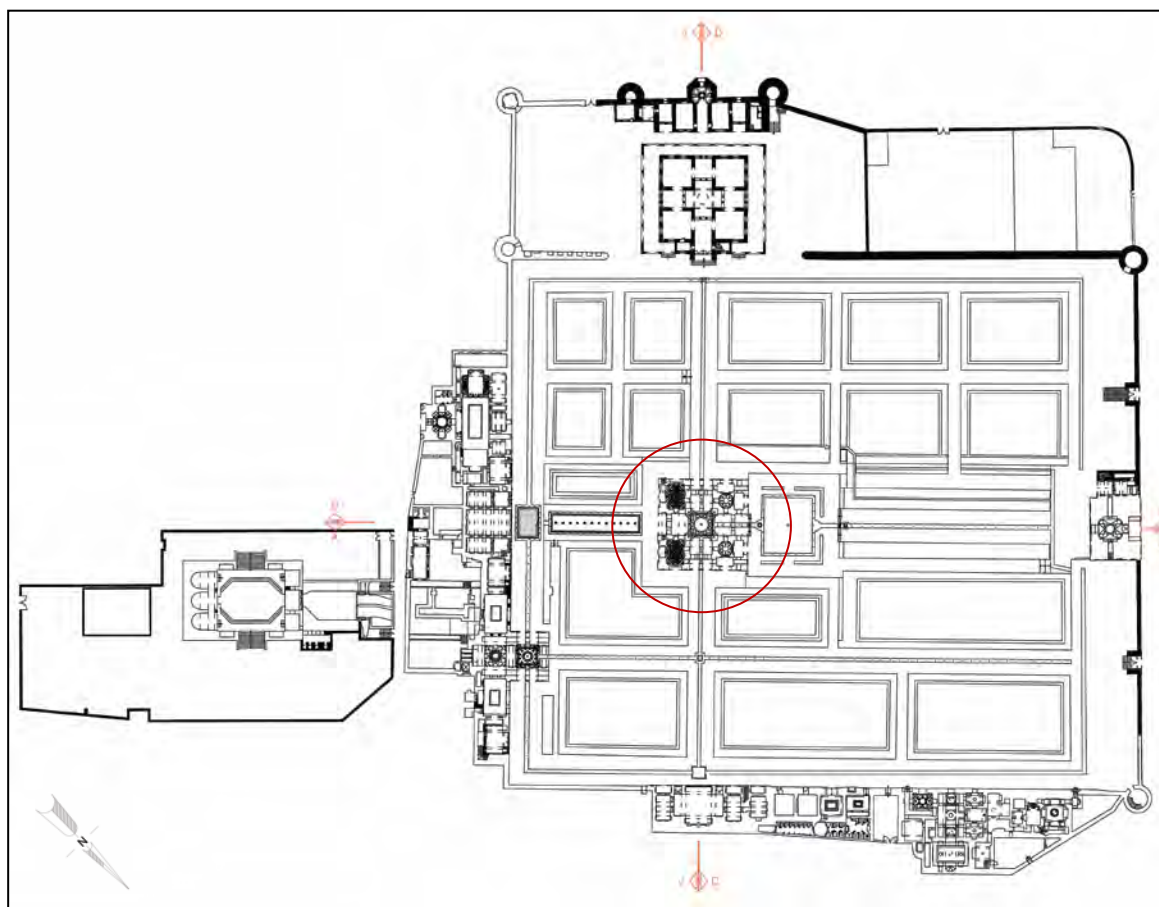


Fig . 2-158. Location of Shah Abasi Shotor Galu (NHBI, Base)



Fig . 2-159. Section B-B (NHBI, Base)

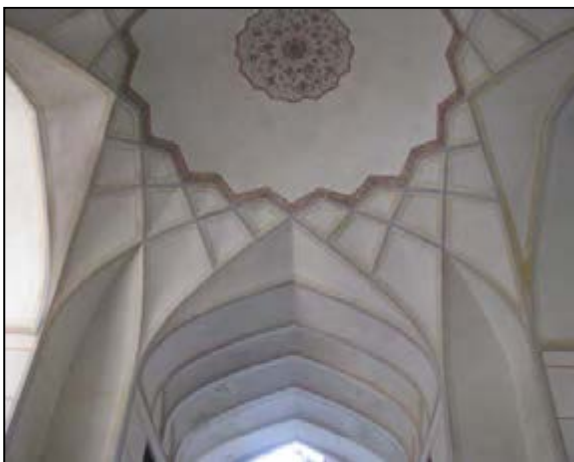


Fig . 2-160. Decoration of ceiling of Shah Abasi Shotor Galu (Khoshnood, 2009)



Fig . 2-161. Howz in front of Shah Abasi Shotor Galu (Khoshnood,2009)

Based on historical events taken place in this garden, the construction of Safavids *Shotor Galu* can be divided into several stages:

**First stage:** The beginning of its construction which dates back to the Safavids era and the reign of *Shah Abas the Great*;

**Second stage:** Reconstruction of the building after the devastating earthquake in 1192 LAH during the rule of the Zands and the Qajars in which the main building was restored and

changed including: the construction of panels, added wall, redecoration of paintings and change in its linking routes.

Among developments occurring during the Qajars in this building are operations that date to the era of *Fatali Shah* (1226 LAH) in which garden buildings including the Safavids *Shotor Galu* were decorated with lovely motifs. For example upon one of *Shah Abasi Shotor Galus*, there exists a large painting of the formal court of *Fatali Shah* under which poems praising the king have been written. In front of it another picture is seen of the king and his retinue hunting.

Initially the structure of pavilion was built at the middle of present roof of Safavids *Shotor Galu* during the reign of *Shah Safi* in two floors which is now totally missing. Apparently, it was destroyed by the earthquake occurring in the year 1192 LAH but during the rule of the Qajars has been rebuilt using new composition and building materials almost in its original form. *Baron Dubed* has visited the structure in 1219 SAH and his representation of it is a little different from drawings made by other foreign travelers visiting it earlier. For example, the sizing and composition of pavilion in Baron's travel account varies significantly compared with *Flandin* description of the same detail. Therefore, it can be concluded that after the earthquake occurring in the year 1192 LAH, it has been rebuilt by different materials such as wood during the reign of the Qajars. Finally, pavilion was totally disappeared by local mutineers toward the end of Qajars rule and never rebuilt again.

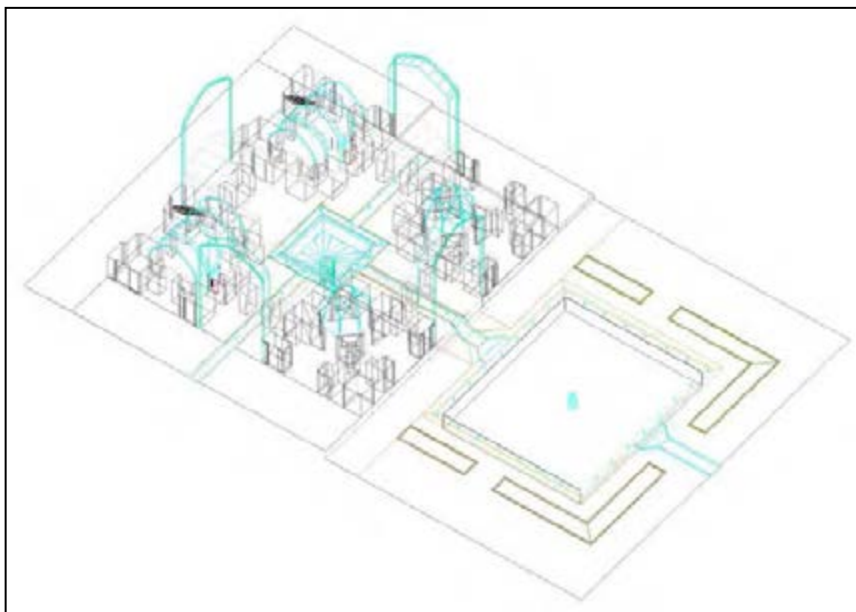


Fig . 2-162. Perspective of middle pavilion (NHBI, Base)

### 3-2-2- Garden Enclosure

A special enclosure has been constructed around *Bagh-e Fin* which is specific to its general form in order to make it more secure. The enclosure is consisted of many towers and ramparts and provides an enclosed, geometrically pure space.

In its north western side there is another rampart as a result of the positioning of side spaces outside the main rampart defining the pure space of the garden.<sup>15</sup>

These ramparts have been made of mud-bricks and adobe with some decorations which are now largely missing. At present, except for the northern wall of the garden that has been rebuilt by bricks in the former style with *Shakh bozi* arches, its southern, western and eastern walls have a foundation (*korsi-chini*) of stones up to a two meters height but the rest of the wall up to 4-6m is made with mud.<sup>16</sup>

There used to be two towers on the either end side of the southern wall with one tower gradually collapsing. On the whole the garden had seven towers. On the south western front of the garden there exists an entrance which has access to its yard indirectly.<sup>17</sup>



Fig . 2-163. Enclosure of *Bagh-e Fin* (Khoshnood, 2009)

<sup>15</sup>Jeyhani, Hamid Reza ,Omrani, Mohammad Ali (2007); "Fin Garden'.

<sup>16</sup> Farrokh-yar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

<sup>17</sup> Jeyhani, Hamid Reza , Omrani, Mohammad Ali (2007), "Fin Garden".

### 3-2-3- The Entrance<sup>18</sup>

*Bagh-e Fin* complex has an area of about 25000 square meters. The first structure seen when approaching the garden from *Fin* street is its high entrance located at its entrance on the far northern side of the garden which has a good view of garden grounds as well as its vicinity. The entrance stands upon a stiff foundation by means of thick brick pedestals. The foundation is made of rubble stones and a lime-sand mortar with a roof painted with stucco geometrical works and decorations. After passing a wooden door an entrance *Hashti* is seen whose roof has been decorated with tiles and sun-dried bricks. On the right side of the *Hashti* a corridor makes access to garden easier. The main structure of the entrance building has been made in the Safavids era but gradually it has gone under transformations until the Qajars era and during the rule of *Ehteshamol-saltaneh* in which essential repairs were done. Generally, the entrance is consisted of two lower and upper floors whose first floor comprises the *Hashti* with side rooms, entrance corridor of the garden and the second floor consists of a large and beautiful upper chamber adorned with exquisite latticed doors. On the either sides of the entrance, subsidiary entries have been constructed for the passage of domesticated animals. They were probably the location of the guardhouse which has been gradually destructed and its place has been stone-paved.



Fig .2-164. The Entrance of *Bagh-e Fin* (Khoshnood,2009)

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<sup>18</sup> Jeyhani, Hamid Reza , Omrani, Mohammad Ali (2007), "Fin Garden".

By the order of *Fatali Shah* of Qajars who was very fond of *Bagh-e Fin* and spring, the governor of Kashan district, *Hadj Hassan Khan Sadre-Azam Esfahani* constructed a new platform in his name on the south western side of the garden. Its original structure is a *Char-Taqi* (square dome) and a roofed platform with a *Howz Khaneh* with water flowing from all of its sides directed towards garden surroundings by tiled canals and beautiful fountain. The building comprises two back yards on eastern and western sides with a floor paved with marble stones and an interestingly painted roof. The original structure made of mud-bricks and sun dried bricks stands upon thick adobe columns with its foundation filled by rubble stone, and lime-sand mortar. Symmetrical vestibules in the middle of individual columns facilitate access to *Shotor Galu* area. In addition to arches and symmetrical large and small niches in this building, beautiful paintings and inscriptions have covered all over its roof and body.



Fig . 2-165. Decoration of upper room of entrance (Khoshnood,2009)

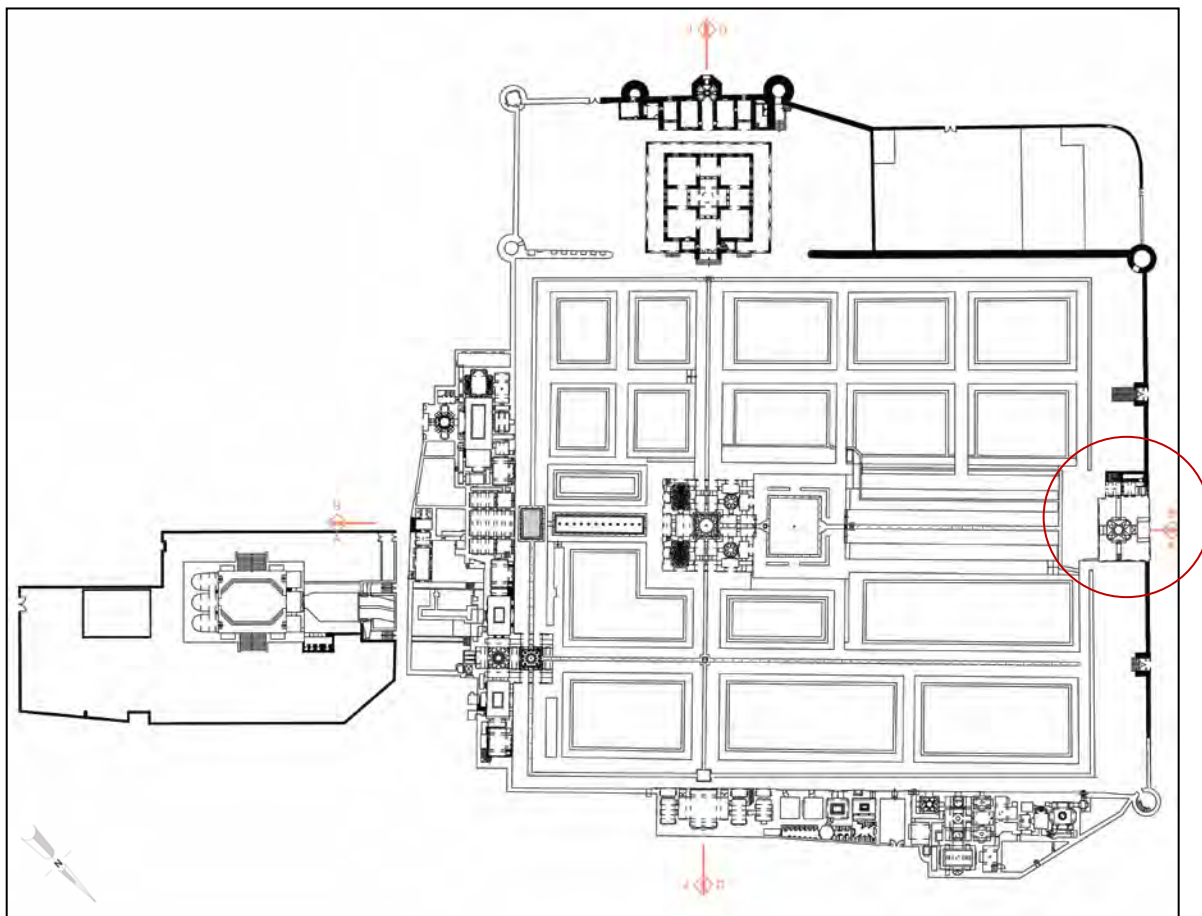


Fig . 2-166. Location of entrance (NHBI, Base)



Fig .2-167. Section A-A (NHBI, Base)

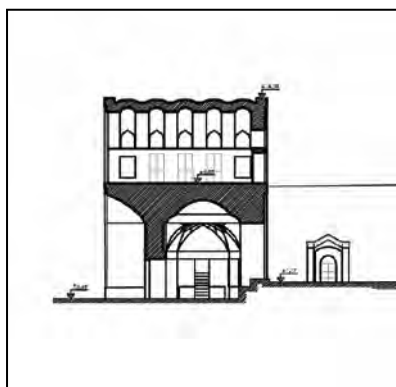


Fig .2-168. Section A-A (NHBI, Base)

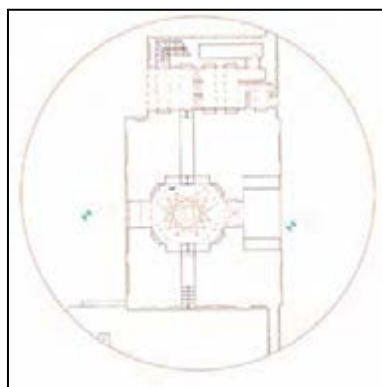


Fig .2-169. Plan of entrance (NHBI, Base)

### 3-2-4- Qajars pavilion (*Fatali Shahi Shotor Galu*)<sup>19</sup>

Historic accounts and drawings of travelers show that the entire floor of the platform was paved with marble. Moreover, the surface of marble plinths courses around platforms was adorned by gilt reliefs. Upon each one of the upper niches of portals were drawn names, titles and pictures of king's sons clad in long frocks. The domed roof of the *Shotor Galu* and its opposite platform was decorated by various kinds of geometrical and mythical motifs. On eastern and western sides of the building, two back yards with multiple rooms and living facilities were constructed. At the other section of the platform, a stucco inscription with beautiful poems by *Mir Masum Kuzekanaani* is seen from which many stucco works still remain. The fine lithography inscription in *Nastaligh* writing all around the platform opposite the pond is the work of *Mohammad Taqi Hoseini Kashani* one of the famous calligraphers of the early Qajars period.

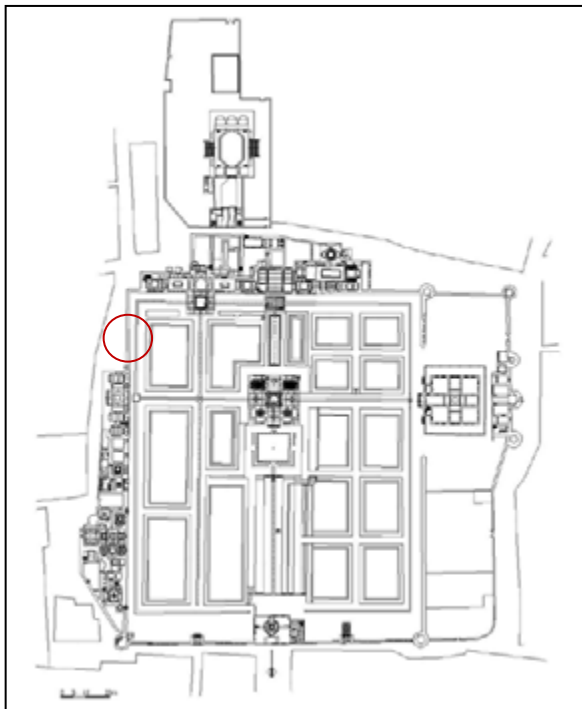


Fig .2-170. Location of Fatali-shahi Shotor Galu (NHBI,Base)



Fig . 2-171. Fatahi Shahi Shotor Galu (Khoshnood, 2009)

<sup>19</sup> Farrokh-yar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".



**3-2-5- Karim Khani Andarooni and Shah-Neshin (Alcove)<sup>20</sup>**

Near the platform structure of *Fatali Shahi Shotor Galu*, there exists an array of inter-connected rooms. Amid these rooms and opposite the gushing pond, a large room is seen painted with geometrical and *Yazdibandi* works as well as symmetrical arches and niches known as the *Shah-Neshin* chamber (*Shah- Neshin*= where the king sits in *Farsi*) In front of the *Shah-Neshin* a beautiful small pond has been installed which has several regular orifices in which *Soleymanieh* spring water of Fin gushes out in an interesting manner.

Inside the same section there exists the residential quarters located south of the garden and west of *Fatali Shahi Shotor Galu* which is known as *Karim Khani* private section. This structure was commissioned by *Karim Khan Zand* in 1176 LAH and built by the Kashan governor of the time, *Aqa Salim Araani*. It consists of a small central yard surrounded on four sides by porticos and interconnected rooms with an exclusive entrance so that inhabitants could live in comfort out of the sight of persons not intimate enough to have access to women's apartment. These individuals used to frequent the garden for professional reasons in order to meet the garden owner. It is said that *Amir Kabir* has lived in this building for forty days.



Fig . 2-172. Karim Khani Andarooni (Jeyhani,2007)

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<sup>20</sup> Farrokhyar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

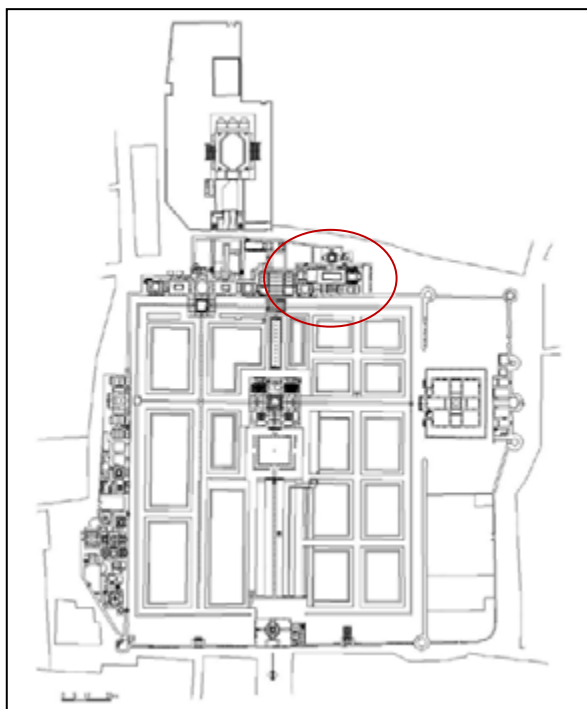


Fig . 2-173. Location of Karim Khani Andarooni and Shah- Neshin (NHBI,Base)



Fig . 2-174. Shah-Neshin (Khoshnood, 2009)

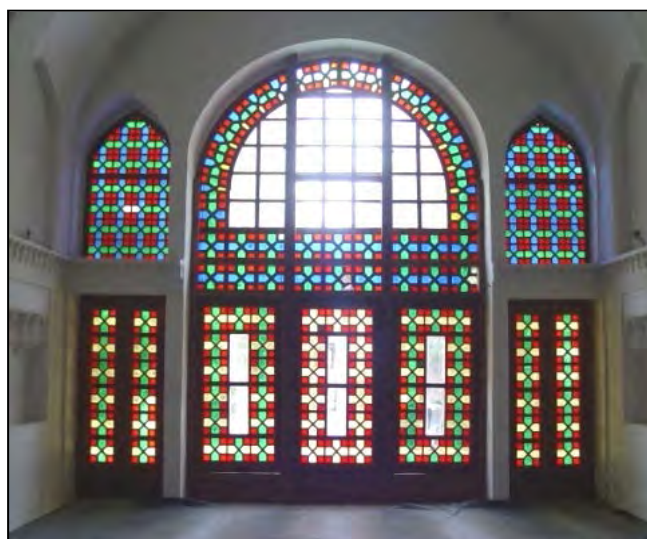


Fig .2-175. Decoration of Shah-Neshin (Khoshnood, 2009)

### 3-2-6- The Library<sup>21</sup>

On the eastern side of the garden, in addition to WC and bath houses a large, old room with a domed roof has been allocated to library. *Bagh-e Fin* library was established in 1334 SAH thanks to the endeavor of a group of Kashan persons of distinction especially the late *Allahyar Saleh* for public usage. In the memory of the insightful and wise chancellor of *Iran* during *Naseroldeen Shah's* reign whose martyrdom took place inside the nearby bath house, the library was named *Amir Kabir*.



Fig .2-176. Library (Khoshnood,Adhami, 2009)

### 3-2-7- The Museum

The building of the national museum of Kashan has been built upon the ruins remaining from the private building of *Nezaamoldouleh* on the western front of the garden. It is a quadrangular structure with an area of 300 square meters. The entablature of the entrance has *muarraq* tile works and brick works with an inscription in which these words have been written: "*Bagh-e Fin* museum, established in 1337 SAH".

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<sup>21</sup> Farrokhyar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

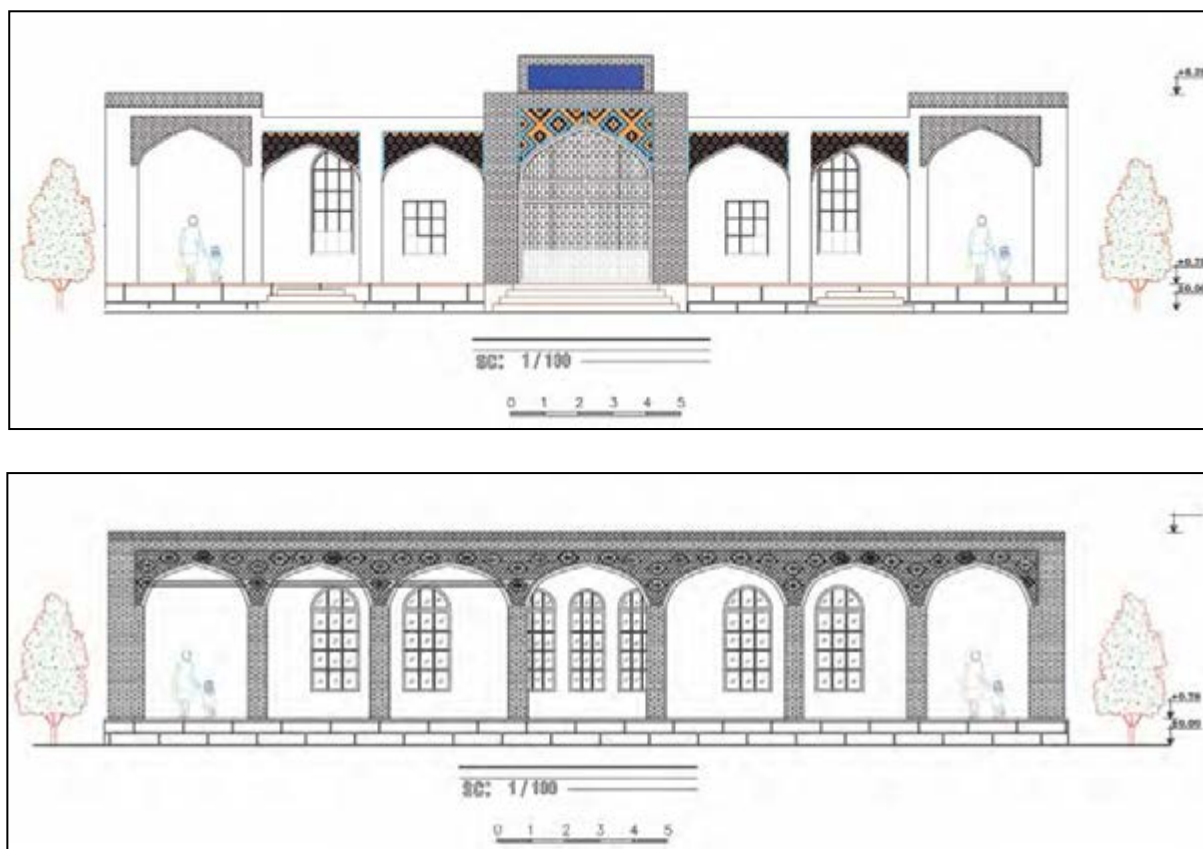


Fig . 2-177. Elevation of museum (NHBI, Base)



Fig . 2-178. Museum of *Bagh-e Fin* (Khoshnood, 2009)

### 3-2-8- Bath House

Entering *Bagh-e Fin* grounds on the eastern side a relatively high wall is seen with its entire outer wall surface covered by sundried bricks and *Kahgel* uniformly. Only two recesses are seen inside the wall belonging to bath house entrances that also link bath houses to the garden space. The great bath house of the garden or the royal bath house has been constructed during the *Safavids* era and possesses a special architecture. The bath house has been built simultaneous with the original construction of the garden during the rule of Shah Abbas. A smaller bath was used by local employees but in specific days of the week neighborhood residents also were permitted to use it. Bath room floor was about one meter lower than *Bagh-e Fin* grounds in order to make possible water supply for hot water reservoir and intake.

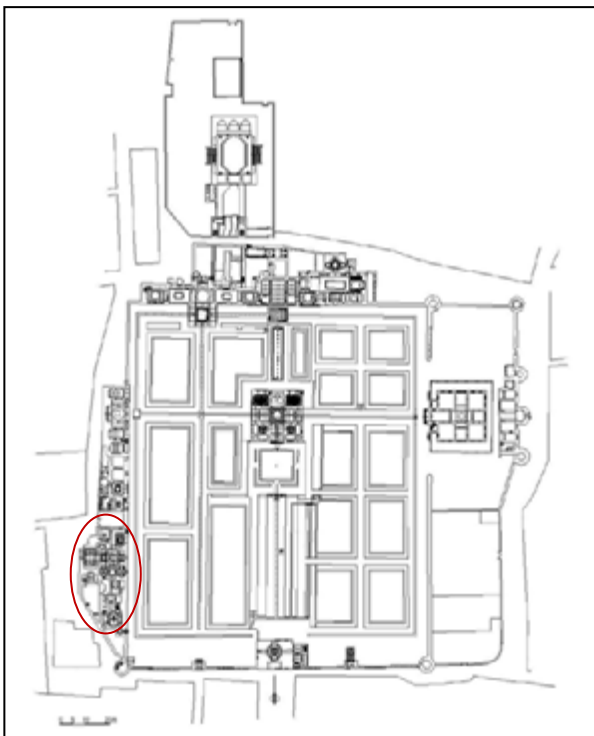


Fig . 2-179. Location of bath House (NHBI,



Fig . 2-180. Bath House of *Bagh-e Fin* (Khoshnood,2009)

#### **4-Garden Typology**

What is available from the beginning of garden formation until the rule of *Shah Abas I* is the general framework of the garden which comprises a limited space at the middle of the garden tower and ramparts. This framework provides a pure, geometrical space following the spatial structure of Persian Gardens. Considering the fact that in the spatial structure of *Bagh-e Fin*, the double intersecting axes are regarded as important features in the formation of general space, also regarding the fact that the middle pavilion which is also known as Safavids *Shotor Galu* has served like a mould giving form to the limited space, it can be concluded that *Bagh-e Fin* structure during its initial formation was a garden-pavilion which is one of the Persian Garden types.

Therefore, the Persian Garden has been formed based on specific geometrical relations and configurations and enjoys a defined spatial pattern as well as a kind of organization for establishing various functions. All spaces of *Bagh-e Fin* have been allocated to serve the main function of the garden which is a place for reception, recreation and habitation of the king.

Functions along the main walkway are as follows:

The entrance which has been defined as a specific space for entry into the place also serves as a reception venue for some guests. The entrance leads to the *Hashti* which is a ceremonial space for sitting and receiving guests. One of the most distinct spaces for this purpose is the *Karim Khani* private section. Amid these spaces is located the middle pavilion which due to its superior position and spatial quality dominates the garden space like an alcove.

The presence of water which has linked the middle pavilion to the open space opposite it has been fully in agreement with this royal usage of the garden.

In the meanwhile, bath house spaces and other subsidiary functions have been made in order to help this major function. Present function of *Bagh-e Fin* is defined as a historical complex with garden-museum function.

#### **5-Some special and outstanding points about *Bagh-e Fin***

*Bagh-e Fin* dates back to pre-Islamic periods and is linked with *Sialk* civilization. The gushing spring with its huge water output near the garden has resulted in the formation of a

great civilization thousands of years ago as well as the construction of a green and beautiful garden hundreds of years ago.

On the other hand, its architectural style is quite different from other similar structures. The Persian Gardens form has always been dictated by weather and natural conditions as well as the amount of water available. For this reason, *Bagh-e Fin* is different due to its location within a specific climate. These differences include: the type of building materials, flower kinds, existing trees and particularly its waterworks.

Just like other Persian Gardens, plants play a key, defining role in *Bagh-e Fin*. Layout, configuration, order and composition of trees, flowers and bushes in the garden follow the principles governing the efficiency, dynamism and beauty. In addition, they serve to combat environmental adverse conditions during different seasons of the year. Garden trees have separated it from the surrounding terrain by generating and maintaining a micro-climate inside. Spaces made by tree lines define the microclimatic behaviors inside the garden including: air currents, lights and shadows as well as winter and summer dwelling places.

Another important point is the old age of its cedar trees which are known as *Fin* cedars. They have been mentioned in several books such as "*The History of Kashan*" written by *Abdolrahim Kalantar Zarrabi* who lived during the rule of the Qajars king, *Naaseroldeen Shah*. In his book, he calls *Bagh-e Fin: Sarvestan* which in Farsi means where there is plenty of cedar trees.

Due to the formidable presence of cedar trees the planting system of the garden enjoys a high degree of readability at least from a general aspect but it is asymmetrical, although this property is not noticed much in photos or spectacles. Such asymmetry is one of the main characteristics of *Bagh-e Fin* which is regarded as a prototype of Persian Gardens. Another characteristic is the beauty and freshness of its trees despite being in a desert climate as well as the compatibility of its plants with the dry and semi desert weather of *Kashan*.

Considering the usage of building materials it must be said that because of climatic conditions and regional hot and dry weather almost all garden structures have been built by using sun dried bricks or mud bricks and *Kahgel* has been used for roof covering.

*Bagh-e Fin* has become a byword of waterworks among the Persian gardens from a long time ago without any parallel in other parts of Iran. For this reason it can be considered as a unique garden remaining from the Safavids era.

As mentioned earlier, one of the most dramatic events happening in the garden was the execution of Iranian popular chancellor, *Mirza Taqi Khan Amirkabir* by the order of the Qajars king, *Naaseroldeen* Shah in its bath house.

In the end, it must be pointed out that *Bagh-e Fin* owes its reputation to *Soleymanieh* gushing spring, its waterworks, its tree types as well as its long history which is more than four hundred years old.

### **6- Status of *Bagh-e Fin* in Arts and Literature**

Poems and literary pieces inspired by this monument are seen for example in the works of *Malekolshoara-ye-Bahar*<sup>22</sup>

*Aazar Bigdeli*<sup>23</sup>

*Adib Beyzaei Kashani, Mirza Ahmad Adib Sheybani* to name a few.<sup>24</sup>

Among the above mentioned poets, *Bigdeli* the twelfth century poet and writer of fire-temple memento has recorded the repair date of *Bagh-e Fin* in a quatrain as 1176 LAH.

In addition to examples cited above, representations of the central pond of *Bagh-e Fin* are seen in miniatures of *Vafa* (Loyalty) Garden in *Baaber-nameh* book. In fact, the central pond of gardens is a metaphor of the Paradise pond which exists in the other world.<sup>25</sup>

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<sup>22</sup> Farrokhyar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

<sup>23</sup> Farrokhyar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

<sup>24</sup> Naraqi, Hasan (1968); "Historical Monuments of Kashan and Natanz".

<sup>25</sup> Jayhani, Hamid Reza, Omrani, Mohammad Ali (2007); "Fin Garden".



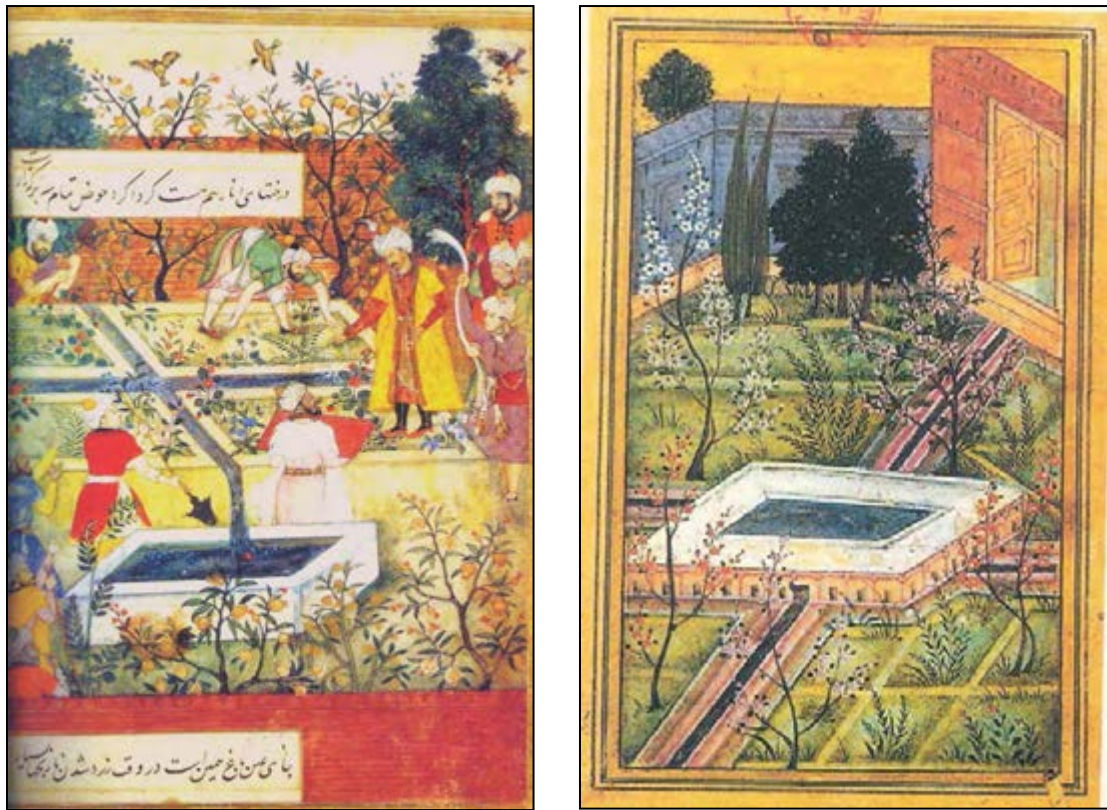


Fig . 2-181. Miniature of Bagh-eVafa (Jeyhani, 2007)

## 6-1- Travel Accounts<sup>26</sup>

### *George Curzan*

He writes:

"*Fin Castle* stands about four miles south west of Kashan on a mountain foot whose springs have always favored Persian kings. *Shah Abbas* had built a residence there but the current structure which is ruined belongs to *Fatali Shah* era. *Fin* was one of his favorite summer residents although initially it was built for his brother *Hosein-Qoli Khan*.

Walkways of the garden have been adorned with lines of cedar trees along which streams with marble stones and water fountain create a lovely scene. On its walls, pictures of *Fatali Shah* with his children as well as scenes of hunting and feasting have been painted. Later, *Bagh-e Fin* became the reminiscent of a bitter event because its bath house was the place in which *Mirza Taqi*

<sup>26</sup> Farrokh-yar, Hosein (1996); "A Paradise on Desert Margin, the architectural and historical development of building complexes in Fin of Kashan".

*Khan Amirkabir* the husband of *Naseroldeen shah's* sister and Iranian chancellor was executed by cutting his arms vein. At present, the castle is abandoned."

### **Jane Dieulafoy**

13<sup>th</sup> August: During summertime most of Kashan inhabitants travel to cooler regions or at least spend a few days in *Fin* village which is located at a distance of about six kilometers from *Kashan*. In this village a lovely garden exists which was visited by us today. A large stream flows in the garden that seemingly rotates forty watermills. Successors of *Shah Abbas* have constructed a magnificent castle surrounded by tall trees at the spot. It is still standing and serves as a recreation resort for the noble men of Kashan. The Iranian chancellor *Mirza Taqi Khan Amir Kabir* the husband of *Naseroldeen shah's* sister was clandestinely killed here by king's order.

### **Donald Wilber**

In his book: '*Persian Gardens and their Pavilions*', *Donald Wilber* writes:

"Approaching the historical city of Kashan , any traveler can easily notice on the right side of the road lines of tall cedar trees belonging to *Bagh-e Fin* which can be regarded as the most interesting part of the city. *Bagh-e Fin* sets a good example for Persian gardens because it represents the great contrast between the arid desert terrain outside and the green lush space inside. Outside the garden, water is scarce and valuable but inside the garden it is flowing abundantly so that a large green area can be irrigated by it. Here, the lifeless, dry land is replaced by trees, greenery and colorful flowers as well as turquoise tiles, water fountain , stuccoes and inlaid works creating a sharp contrast between fertile and barren fields.

*Bagh-e Fin* pattern is a reminder of Persian carpet designs because similar features such as multiple streams, fruit trees, beautiful flowers and pavilions are seen in both.

Margins and beds of all streams are covered by blue colored tiles so that water flowing in them looks bright and glimmering. All the water eventually enters a large pool surrounded by trees. The bigger pool reflects the image of the central pavilion remains whose construction is attributed to *Fatali Shah* of Qajars."

### **Clement Debod**

"On the right side of Kashan and at a short distance from it, there exists a lovely place called *Fin* which was occasionally used by *Fatali Shah* of Qajars as a recreational resort. The layout of the

garden with its magnificent plane trees and excellent cedars is in such a way that makes excursion more exhilarating. Its *Kolah-farangi* has a bright and interesting structure with crystal clear water running inside its lower floor rooms. The upper floors are open from four sides in order to make air circulation possible."

***E.Durand***

"At a distance of 5-6 miles from Kashan, a beautiful garden called *Fin* is seen near which clean and edible spring water gushes out. The spring water enters a large cistern or pool with a depth of 4-5 feet in which many fish swim and is so clear that its earth bed is easily visible. Observing the playful fish eating food and swimming is an interesting sight..."

***Percy Sykes***

"In Kashan we visited the famous *Bagh-e Fin* which is a perfect example of the Persian gardens and enjoyed its beautiful scene greatly. The garden has plenty of pine trees and inside its streams runs clear water. The tiled bed of these streams is well known because of their beauty which also has contributed to the fame of *Kashan*. But in its heart it harbors a regretful story which makes it seem bad omen by some people because inside the bath house connected to the garden, a benevolent chancellor of Iran by name of *Mirza Taqi Khan Amir Kabir* was executed. He was a man who wished to start fundamental reforms in Iran and to eradicate corruption and bribery but became the victim of royal court plotters. The event proves that Iran at the time did not have the potential to tolerate a liberal and intellectual-minded chancellor."

***Eugene Flandin***

"...Next morning upon our departure the prince presented us a delicious breakfast in a small castle called *Fin* or *Bagh-e Fin* which is at a distance of three kilometers from Kashan. Here, there exists a beautiful pavilion which stands at the middle of the garden. *Bagh-e Fin* has a lot of cedar trees which cast their shadows on its walkways. Its water is supplied from a spring behind the castle which has clear, edible water and contributes to the vitality of the garden. Local inhabitants are superstitious about this water and believe in its medical properties which I could not verify personally. Water splashes into a pond at the center of the palace and is considered as a dear commodity particularly in summertime. The pond floor has blue tiling which grants it a special attraction."

**Count Desercy**

"After traveling one and a half hours out of the town a hill is seen atop which a villa has been constructed and I went to visit it. Having got off the horse, I was directed toward a garden which had a well treed and green walkway under the shadow of lush pine and cedar trees. The walkway led to a glorious palace with an excellent pavilion standing at its top. We were warmly received by Prince *Fathollah Mirza Shoaolsaltaneh* who is quite similar to his father in respect of garment, beard, countenance and facial features. The food cloth was set upon turquoise tiles of the pond house which created an interesting scene. The building overlooks a large lake with a floor made of beautiful colored tiles. A bright stream runs into multiple fountain and fills the lake as well as water canals along the walkway. Flocks of fish jump around fountain and it looks as if amid clear water waves a glowing ray shines into the space. This beautiful masterpiece of nature caresses the heart and eyes of its beholders and invites them to view an exquisite spectacle. In the end I must admit that I had never and nowhere seen such an exhilarating and enlivening scene. And I will never forget the play of human emotions and passions envisaged in lovely motifs of the pavilion and garden grounds."

**Sir John Malcom**

In his diary about travel to Iranian court in years 1799-1901 *Sir John Malcom* writes:

"*Bagh-e Fin* is a clean summer residence in which a beautiful spring flows. Spring water goes toward the city after gushing out of a mountain near the town. During our short residence in *Kashan*, our ambassador was received kindly by the prince dwelling in the garden..."

**Count De gobinoue**

*Count De gobinoue* says this in his book three years in Iran:

"...During our arrival into *Kashan* we had to wait for nine hours under the blazing sun because many people had come to welcome us. After this ceremony we were warmly received by the local governor, *Mohammad Ebrahim Khan*. I have hardly seen the parallel of this garden anywhere else. Its crystal clear water flows inside an azure colored pond and brooks creating a tantalizing spectacle. On the surface of one of the shallow ponds adorned by colorful, prominent tiles the playful jumping of gold fish was an interesting sight. Several other ponds with various forms and dimensions were also seen. Lush trees cast a pleasant shadow over the vast area of the garden and walkway edges were covered by colorful flowers. At the center of the garden a high structure stands called *Kolah-farangi* which is opposite the *Andarun* and the *Harem*. Recently, a tragic event happened here which was exceptional in the history of world particularly Asian nations."

***Polak***

"Cedar trees of the garden grow as high as you can imagine. The garden is infamous because the assassination of the powerful chancellor of *Iran*, *Mirza Taqi Khan Amirkabir* took place here. It has huge trees and exhilarating water streams. No traveler should miss the opportunity to visit the bath house in which *Amir* was executed as well as its tall spruce-fir trees."

***Mirza Saleh Shirazi***

In his travel account, *Mirza Saleh Shirazi* writes this:

"At a distance of six kilometers from Kashan flows a limpid, clean watered spring known as *Fin Spring* around which a garden has been built by Safavids *sultans*. North of the garden is open and overlooks the desert. In its south are cold mountains with villages having mild weather. It has plenty of fig and grape trees as well as vast ponds."

***Bagh-e Abas Abad -Behshahr*****1-Introduction**

In the years 1020-21 lunar AH, *Shah Abas* founded the town of *Ashrafolbalad* after his mother whose name was *Ashraf* in the present province of Mazandaran. This town was not much bigger than a village until the period of Safavids rule and during the time of *Reza Pahlavi* was renamed As Behshahr. At this time an insightful measure was taken and the Persian Garden was separated from its desert origin because it was built within the green northern coastline of Iran which itself is a manifestation of paradise. In fact, it can be claimed that a garden was constructed within another garden.

As a result gardens such as: *Bagh-e Haram* (Garden of Harem), *Bagh-e Zeytun* (Garden of Olive), *Bagh-e Shomal* (Garden of north), *Bagh-e Saheb-ol-Zaman* (Garden of the Lord of the time) and other gardens were built which do not exist anymore due to modern development projects as well as negligence. But the existing gardens such as: *Bagh-e Shah* (Garden of the King), the garden and building of *Cheshmeh Emarat* (spring-structure), *Bagh-e Tappeh* (Hill Garden), *Bagh-e Safi Abad* and building as well as the historical complex of *Behshahr Abas Abad* are also on the verge of destruction if neglected by the authorities.

Traditionally, the garden designer or the landscape gardening expert in Iran was handicapped by shortage of water and this limitation prevented him from flaunting his art and talents appropriately, but this problem never existed in the rainy region north of Iran. *Abas Abad* is a Safavids monument located at a distance of nine kilometers south east of modern Behshahr. It has been constructed inside a dense jungle near *Ali Tappeh (Al- Tappeh)* village at the foot of *Jahanmoora Mountains* which are a branch of *Alborz Mountain Chain*.

*Abas Abad* historical complex consists of a garden, a dam, dual brick towers in *Chahar Bagh* compound, a water mill, palace, stone-paved paths and extraordinary waterworks all built by *Iranian* engineers, artists and architectures living in the Safavids period.

**2-Name of the Garden: *Bagh-e Abas Abad***

The historical complex of *Abas Abad* is located 9 km south-east of *Behshahr* next to *Ali-Tappeh (Al- Tappeh)* village inside a dense forest of *Alborz* highlands. To the north of this garden are *Al- Tappeh* and *Saro* villages, west of it are *Ali Tappeh* agricultural fields as well as jungles, and south of it are *Jahanmora* highlands and *Behshahr Hezarjarib* village which is a summer residence. The general slope of the area is from south to north. Accordingly, the *Safavids* architecture has been created compatible with this gradient as well as the geological composition of the region.

Despite the nearness of the complex to *Behshahr* town, its climate is under the influence of mountains around it which has resulted in a five degree temperature difference lower than *Behshahr*. For example if during a summer day, the temperature of *Behshahr* is 30 degrees centigrade, *Abas Abad* complex will be five degrees cooler. Based on measurements by GPS, the altitude of this region varies between 400-560 meters above sea level. (Refer to political divisions' map of the province

**2-1- Location of Geographical**

**1a. Country (and State Party if different):** *IRAN*

**1b. State of province or region:** *MAZANDARAN (Behshahr)*

**1c. Name of Property:** *Bagh-e Abas Abad*

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 36° 39' 50"; N: 53° 35' 38"



Fig. 2-182. Location of Mazandaran in Iran map



Fig . 2-183. Aerial view of Abas Abad Location



### 3- Features existing in the garden

#### 3-1- Natural Features

##### 3-1-1- Water

###### 3-1-1-1- Introduction of two important springs in *Abas Abad*

There are numerous springs in southern, south-western and south-eastern highlands of the forest region of *Abas Abad*. Two of these springs are of more importance namely: *Sarcheshmeh* and *Qari-cheshmeh* which are described below:

***Sarcheshmeh* Spring:** is located about 3500m. South-west of the historical garden of *Behshahr* and has a high output of water<sup>27</sup>. What is significant about it (which was probably also important in the past) is that at present it supplies the reservoir of *Abas Abad* dam with water in winter. In addition, during early spring its flow joins that of the dam and makes a river which irrigates rice fields in the downstream of *Abas Abad* region (*Saro*, *Ali Tappeh* and *Shah Kileh*). Also, the drinking water consumed by visitors and tourists in the historical and touristy region of *Abas Abad* is supplied by this river.<sup>28</sup>

***Qari* or *Quri Cheshmeh*:** Because water comes out of this spring in a bubbling fashion, it is known as *Qari* or *Quri Cheshmeh* which in *Farsi* is the noise made this way. The spring is located at a distance of about two km south east of *Abas Abad* complex and has less output than *Sarcheshmeh* spring but more than similar springs inside *Abas Abad*. It serves as the only source of supplying water to *Saro* village north of *Abas Abad* complex which has also been verified by valid documents.

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<sup>27</sup> *Sarcheshmeh* water comes out of a cave. During the visiting in 1379 (solar AH) it was evident that after passing a distance of about 5-10m, it was possible to enter the cave half-raised but it must be done via the cliffs in an upward and not horizontal direction

<sup>28</sup> Part of the spring water is utilized by visitors as well as recreational and tourist facilities.

### 3-1-1-2- Water entrance into *Chahar Bagh* compound: The main point of distribution of water in the historical complex

Considering what was said in the previous pages about introducing the two springs of *Abas Abad*, it must be noted that in *Safavids* period the *Sarcheshmeh* spring water was probably directed and delivered into *Chahar Bagh* compound by means of an open canal or interconnected ceramic pipes called *Tanbusheh*. Seventy meters before the compound, a brick basin sized: 2.40 by 1.90 by 1.00 meters was filled with spring water which was in fact the onset of the irrigation system for the historical *Bagh-e Abas Abad*.



Fig . 2-184. Brick basin of the *Chahar Bagh* compound

According to existing evidence and investigations conducted, the water entered *Chahar Bagh* compound either in the form of water fall or water view or as a *Tanbusheh* system and then was distributed for diverse consumption requirements. Before describing the water supplying method, *Chahar Bagh* compound must be introduced in more detail and then its status, significance and role in water distribution for this historical *Safavids* garden should be discussed.

*Chahar Bagh* compound has an area of about 3200 square meters and is located at a distance of 600 m south east of the historical garden on the south eastern slope of the mountain overlooking the dam. During *Safavids* rule, the slope has been scraped and turned into a flat surface with an area of 46 by 72m. Because of the gradient, there is a level difference of 15

meters between the compound and the garden which is the reason why the compound has been chosen as the water distribution point. But it must be mentioned that aside this function, it also served as a recreational point and a garden making station in *Safavids* era. (Refer to the archeological map of *Chahar Bagh* site)

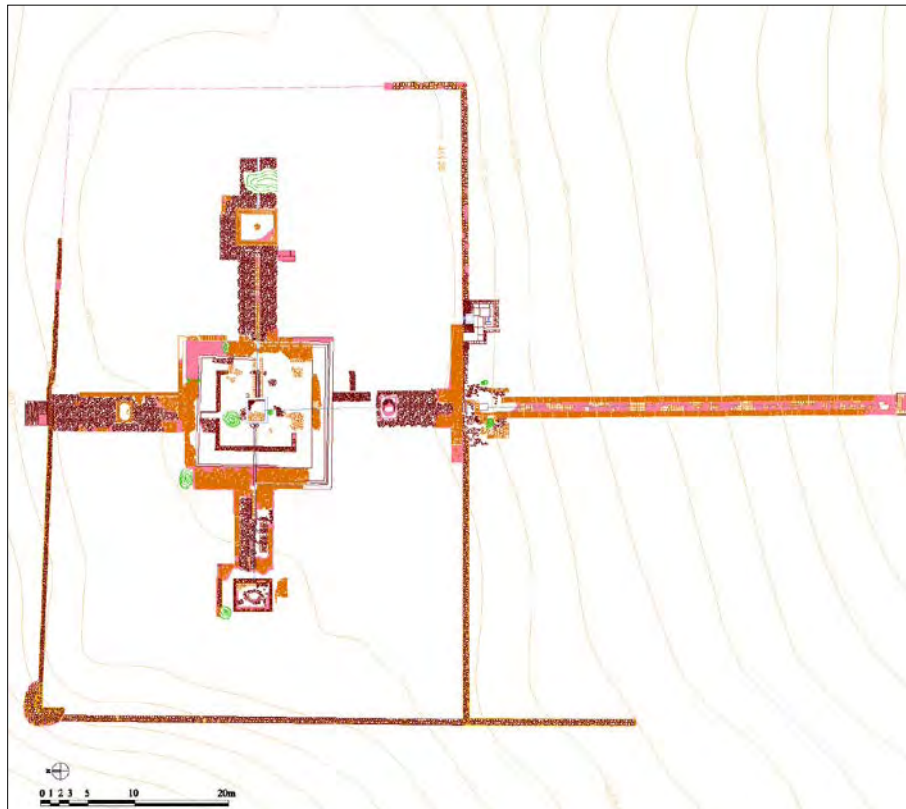


Fig . 2-185. The archeological map of Chahar Bagh site

### 3-1-1-3- Water delivery from *Chahar Bagh* to the historical garden

In 1380 solar AH, three test boreholes were dug alongside each other at the second phase of *Abas Abad* excavations to gain better insight about the entrance route of water into the historical garden. In each borehole, an architectural monument was encountered which was a 120 by 120 cm brick wall. Next, part of a wall was removed and it became obvious that inside the wall a ceramic pipe was inserted with segments connecting each other in a male-female fashion. (Refer to ceramic pipes design) In fact, the wall served as a protective shield for these ceramic pipes (*Tanbusheh*) which were considered as vital veins for the garden.

Clearing the wall shield of the pipe at the second phase of excavations revealed interesting facts. The entry and exit paths of water were exactly shown so that one side of the wall protecting the ceramic pipe was connected to *Chahar Bagh* compound and the other side went into the main basin inside the central platform of the historical garden. This connection primarily indicates that water supply was directed from *Chahar Bagh* compound to the main garden. As said before level difference is the second reason that proves such theory which made the water run. According to archeological findings, water appeared as a jet in the central basin which also made the whole architecture of the central platform more beautiful.

#### **3-1-1-4- Water supply method in the historical garden**

As mentioned previously, water was delivered by inter connected ceramic pipes to the central basin of the garden in the form of fountain. Then the excess water which was not supplied in jet form, was delivered to side basins located at eastern, western, northern and southern parts by other ceramic pipes connected to the main one (the entry pipe). These pipes went into all four sides of the central platform basin. The eastern basin water was used for irrigating the eastside flower bed opposite the central platform. As the architecture of *Abas Abad* is in a symmetrical fashion, the function of the western basin was like the eastern one with this difference that the western basin in addition to irrigating the western flower bed of the central platform also supplied the water of the *Hammam* located about sixty meters west of it. Now it seems necessary that before dealing with the water supply system of the northern and southern sides of the historical garden, the architectural structure and its status in the central platform is briefly mentioned. Archeological evidence shows that north of the central basin and at a distance of about two meters from it, a structure made of local building materials such as wood existed which gradually worn down. But during explorations, plenty of its iron nails and ceramic pieces of roof cover were discovered. All that remains from its architecture are five stone pedestals and a brick floor.

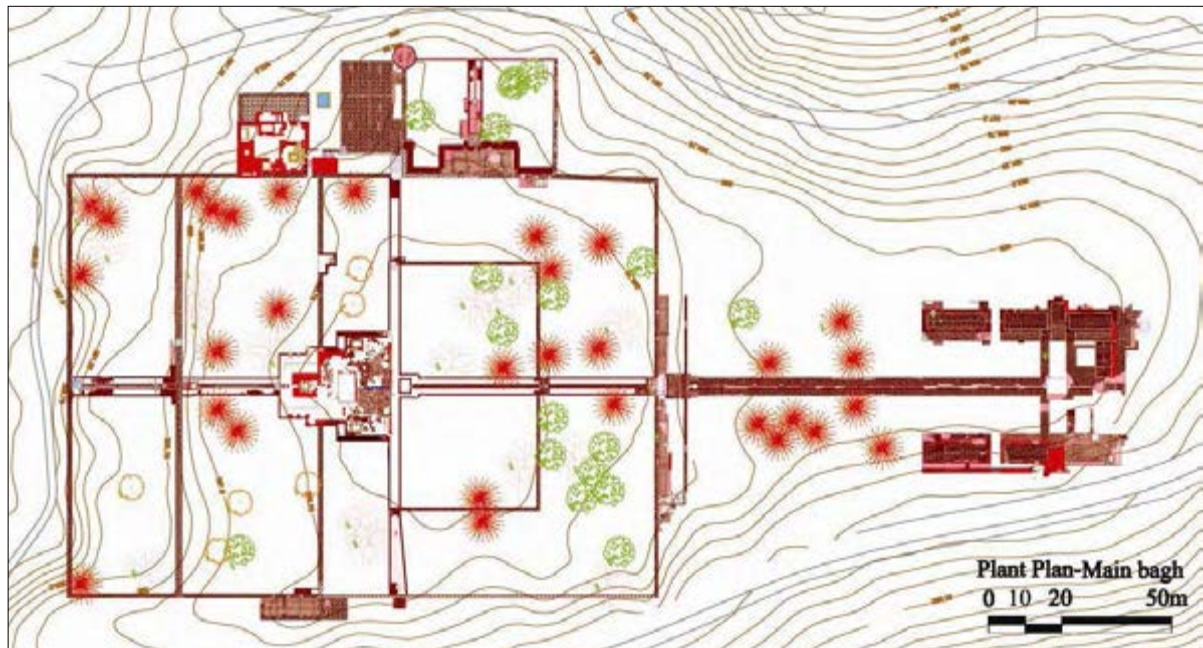


Fig . 2-186. Main garden



Fig. 2-187. The discovered evidences from historical garden during explorations

It is likely that three factors contributed to the importance of the building which is as follows:

- 1- Picture of the structure is reflected in the central basin which adds to its beauty.
- 2- Possibly the northern building opposite the central basin had two floors which overlooked the *Chahar Taqi* inside the dam structure.
- 3- From the point of view of provincial natural resources experts, garden terrace vegetation has an age of less than one hundred years.

Now if the garden compound vegetation is supposedly removed, a person standing inside the southern part of the central building not only had a full view of the structure inside the dam but also could watch the traffic of boat coming from and going into *Miankaleh* peninsula in the Caspian Sea.

Now it can be concluded the waterworks in the northern and southern parts of the garden were different from its eastern and western parts. In the northern part, the water went through ceramic pipes (*Tanbusheh*), then flowed into the stone canal (downspout like) and after coming out of this canal poured into the first basin which was gradually filled and its overflow flowed northward by means of an open canal. After passing a distance of about 50m through the ceramic pipes, the water enters the second basin of the second floor (downstream) either by cascading or absorbing which eventually flow into another ceramic pipe and after making a water jet, enter the second basin of the second floor. After the second basin is filled, its overflow goes into another open canal which is about 50m long and connected to a ceramic pipe inserted beneath the existing architecture. Due to the high gradient of this pipe, the water actually falls into the third basin and later after filling it, the overflow flows into yet another open canal with a length of 100m leading to the fourth basin. Overflow of the fourth basin is directed to outside via ceramic pipes inserted at basin floor.

Water supplying in the southern part of the garden is similar to the north: After the first basin is filled, its overflow entered as water jets into the second basin by cascading or absorbing in a ceramic pipe. The second basin is also filled with water and its overflow flows into a 50m open canal leading to the third basin. Then water enters in a cascading or absorbing fashion inside the pipe inserted in the wall and fills the lower trace basin in the form of jet water. Possibly, after some other phases the southern section water runs into the dam and such process was probably one of the supplying sources of the dam. Due to a shortage of archeological excavations at the southern section, no more information is available. But studying *Bagh-e Abas Abad* waterworks during *Safavids* time shows that aside enjoying the surrounding jungle scenery, the architectural structure for water direction was also intended to create kind of water melody to sooth the nerves.

### 3-2- Architectural Features

#### 3-2-1-Location of the historical bath house of *Abas Abad*

This historical building with an area of 160 square meters is at a distance of 60m from the central platform (of the central building) upon a flat surface 5m lower than the platform. Access to the bath house is made via steps located at the end of the brick-paved path between the central platform and the northern yard of the bath.

#### 3-2-2-Important ingredients of the historical bath house of *Abas Abad*

*Abas Abad* bath house is made of the following constituents that will be briefly discussed:

- 1- The bath house entrance
- 2- Dressing room (*Sarbineh*, Bath head)
- 3- *Miandar* (The room opposite *Sarbineh*)
- 4- Main court (Hot chamber)
- 5- Heating system (Air ducts, chimneys, firebox)

(Refer to the archeological map of the historical bath house in the complex)



Fig. 2-188 . The different parts of historic bath

### 3-2-3-Specifications of *Abas Abad* Dam in Behshahr

*Abas Abad* dam of Behshahr was constructed in a deep valley. It has a foundation width of 20m, a length of 10m and a height of 10m. After the construction of its foundation, two arms were added to either sides of its foundation which not only increased the foundation strength but also enhanced the water intake of its reservoir. On the whole, the arm length of the dam was 70m and its width at its crown was 7m. Behind the dam wall a backstay was built which in addition to strengthening the dam against the potential energy of water, also served as the control center of dam water discharge.



Fig. 2-189. The different views of *Abas Abad* historic dam

Other characteristics of *Abas Abad* dam are as follows:

**Total water intake capacity:** 600,000 cubic meters

**Lake area:** 98,000 square meters

**Maximum depth:** 10 meters

**Building materials:** brick-stone and plaster of lime and ashes or sand (*Saroodj*)

**Dimensions of bricks used in the dam:** 26by26by5 cm.

Reservoir water is discharged via dam valves for agricultural purposes of villages located to its north such as: *Shah-kileh*, *Al-Tappeh* and *Saro*. (Picture of the backstay wall of the dam)



### 3-2-4-Specifications of the combinational *Chahar Taqi* inside the pool

In the middle of *Abas Abad* dam reservoir, there is a brick structure in the form of a *Chahar Taqi*. Earlier, its top roof was the floor of a wooden structure with a ceramic roof. The above mentioned *Chahar Taqi* goes underwater during the water intake of the dam and only its upper surface remains out of the water like an island. The *Chahar Taqi* is based upon eight surrounding piers and one central pier. Pier dimensions are four by four and considering the presence of a basin and a watercourse, it can be guessed that water in the upper part of the *Chahar Taqi* was supplied by ceramic pipes from *Sarcheshmeh* because of level difference and its overspill went into the dam.



Fig . 2-190. The different views of Chahar Taqi inside the pool

Access to the *Chahar Taqi* for recreational purposes was made via a wooden bridge connecting the furthest end of the garden to the upper part of *Chahar Taqi*. Today, parts of the wooden pillar of the bridge still remain inside the dam.

As mentioned before, one of the key buildings of *Bagh-e Abas Abad* is building pedestals (*Chahar Taqi*) inside its pool. The upper section of *Chahar Taqi* is attractive for any visitor because it shows traces of basin, watercourse and fountain.

Excavations conducted by the author indicate that *Sarcheshmeh* water flowed from above and due to different levels of slopes was directed into the upper section of *Chahar Taqi* by means of inter connected vessels (*Tanbusheh*) which were protected by brick walls.

It is likely that due to different heights of the two above mentioned springs, water filled the central basin in a jet like fashion. The overspill of it was distributed among other basins and the excess water poured into the pool from four sides of *Chahar Taqi* which made a musical noise in the pool. The formation of architecture in *Abas Abad* is based on this important principle.

As said before, the structure inside the pool had a recreational function which was accessed only via a wooden bridge (jetty-like) positioned at the north of the structure.

But aside this function it also had technical and scientific functions from the point of view of dam building. It was made of eight piers with an approximate perimeter of four by four meters as well as a central pier. (Refer to *Chahar Taqi* plan)



Fig. 2-191. The plan of the Chahar Taqi

The central pier had inter-connected network pores.

It is likely that this pier served as a valve in emergencies. Consequently, if after closing dam wickets and its full water intake, the dam remained under water pressure or if it moved a little, there was no need to empty the water via wickets because it was done directly from the reservoir.

For example, when water discharge at emergency times took place from wickets, water pressure and surge served as a destroying factor upon the dam. (Photo no.6 shows *Chahar Taqi* condition inside the pool after water intake)

The same *Chahar Taqi* with inter-connected meshed pier also prevented the destruction of the dam during emergency times (after water intake) For this reason, civil engineers constructing *Abas Abad* dam during Safavids period prevented dam destruction at times of emergency by setting up *Chahar Taqi* with its meshed pier at pool center.

In this way, water was absorbed from the middle of dam reservoir by the central pier of *Chahar Taqi*. Then it was directed to downstream of the dam (at a distance of about 200m) by means of canals inserted beneath the dam. This resulted in the decrease of water pressure upon the dam wall and prevented its destruction. Therefore, it can be concluded that the *Chahar Taqi* existing at the center of *Abas Abad* dam reservoir had an engineering and technical function in addition to its recreational one, so that its presence strengthened the dam structure in an undeniable manner.

### **3-2-5-Niloofar exit at modern dam buildings**

In cement dams such as Latian or *Sefid rud* etc, due to the importance of the dam as well as usage of several exits such as wickets, at emergencies water was directed to the downstream of the dam via diversion tunnels.

In earthen dams which consist of stone, clay, etc...and where it is not geologically feasible to construct diversion tunnels, *Niloofar* exits are used. As evident from its name, this kind of structure looks like a water-lily flower and is made based on the water intake at several spots of dam reservoir. When necessary, the water is absorbed from such exits and then runs downstream of the dam through connecting tunnels. This way water pressure upon dam wall

is decreased. Therefore, it can be concluded that the *Chahar Taqi* present in the middle of *Abas Abad* dam in Behshahr has been built to strengthen the historical dam and has the same function as *Niloofar* exit in modern earthen dams.



Fig. 2-192. Chahar Taqi Niloofar exit

### **3-2-6-Tower specifications**

Two brick towers have been constructed at a distance of 186m from the garden and 156m apart. Building materials of the two brick towers are bricks with a size of 25 by 25 by 5cm using *Saroodj* mortar. Plan of both is circular with a common diameter of 7m and heights of 14 and 10m respectively. Both towers had entrance doors which were obstructed in 1367 solar AH in order to stop unauthorized entry and damage to the doors. Inside the tower structure, there is a row of spiral brick stairway leading to the top section of both towers.

According to investigations undertaken, the upper part of both towers has a basin and ceramic *Tanbushah* pipes which were extended in a down- to upward manner.



Fig . 2-193. Towers near the pool

### **3-2-7-Role of the towers in water supplying**

According to studies and soundings conducted in the route between *Gol-Bagh* compound (water distribution station) and the central garden, exactly two brick towers have been built upon the water supplying axis.

Because of a 10m level difference between *Gol-Bagh* compound (water distribution station) and the central garden (Refer to the leveling map and digital diagram of the above route between *Gol-Bagh* compound and the central garden) water flows gently in the 600m distance between *Gol-Bagh* and the garden via ceramic pipes shielded by the brick wall, then appears as a jet in the central basin of the garden and finally is divided into several basins.

Based on line leveling calculations (digital diagram of the distance between *Gol-Bagh* and the garden), the second tower of the present entry pivot of *Abas Abad* has been identified as the zero point. In other words, *Gol-Bagh* compound as far as the beginning of the second tower is located under the level line and the second tower as far as the garden is above the line. There is a level difference of about 10m between *Gol-Bagh* and the garden and the second tower is around 4m lower than the garden.

Therefore, it can be concluded that:

1-The local vegetation does not allow the tower to serve as a watch tower for protection purposes.

2-No other structure has been seen in the whole area used for guarding purposes or traces of it have not been identified as yet.

3-As a result, because the tower has been constructed upon the water supply axis and as for the fact that research shows the presence of a basin and ceramic pipes on top of the tower, it can be said that:

A- The double towers did not function as watch towers.

B- They served as safety valves, siphon traps and above all as pressure relief structures.

Also according to fluid engineering definitions, the twin brick towers of the historical *Bagh-e Abas Abad* in *Behshahr* served as safety valves and siphons (due to level difference between *Gol-Bagh* compound and the garden) for water supplying as well as preventing the sudden cracking or breaking of ceramic pipes.

Therefore, when water was cut off suddenly from above (*Gol-Bagh* compound) the central basin water flowed towards the second tower (due to level difference between the garden and the second tower) and when the *Gol-Bagh* compound water began to flow again, stimulant confluence of currents caused a severe clash which is termed ram like stroke in fluid engineering. Even today, such a strong blow causes the rupture of iron pipes used in urban waterworks. So it is interesting that engineers, artists and architectures living in Safavids times were fully aware of this law in fluid engineering and took measures to prevent it by building these dual brick towers upon the water supply axis. In this way they succeeded in protecting 600m of ceramic pipes against ram like strokes. In addition, by building two brick towers, they were able to prevent the rupture and breakage of *Tanbusheh* pipes as well as to adjust and control the jet water pressure upon the central basin.

#### **4- Some special and outstanding point about *Abas Abad* complex**

Although there is a large number of Safavids era gardens remaining near the southern coast of the *Caspian Sea*, especially at Behshahr town (former *Ashraf*), but *Bagh-e Abas Abad* is considered as an outstanding the Persian Garden for these reasons:

1-Dissimilarity of *Bagh-e Abas Abad* plan with other Persian Garden plans built at the same period or earlier

2-Features and constituents of the Persian Garden reached their climax in *Abas Abad*. As an example, its twin brick towers and its pool are peerless among Persian Gardens. Strong evidence shows that during the Safavids rule, the architectural style of *Abas Abad* in northern Iran has been effective at two other cultural domains namely, north-west and central plateau of Iran. It is clear that gardens like: *Cheshmeh-Ali* of *Damghan* and *Il-quli* were built under the influence of the architectural art used in the structure located at the middle of *Abas Abad* dam reservoir.

3- *Abas Abad* historical complex consists of a garden, a dam and two brick towers in *Chahar Bagh* compound, a water mill, palace, stone-paved paths and extraordinary waterworks all built by Iranian engineers, artists and architectures living in the Safavids period.

## **Bagh-e Shahzadeh (Mahan) - Kerman**

### **1- Introduction**

Kerman Province<sup>1</sup> is located southeast of Iran between 53°, 26' and 59° degrees, 29' eastern longitude as well as 25°, 55' and 32° northern latitude. With an area of 183,193 square kilometers, Kerman Province comprises about eleven percent of Iran soil which makes it the second large province of the country. It is like an irregular triangle with a northern base of about 470 km and a distance of around 630km between its farthest northern and farthest southern spots. Kerman Province is surrounded by southern Khorasan and Yazd Provinces in the north, *Hormozgan* Province in the south, *Sistan-va-Baluchestan* Province in the east and Hormozgan and Fars Provinces in the west.

A large part of its reliefs is the result of mountain generating (organic) motions in this province. The final form of its highlands is the result of *Alpine* organic motions. These activities appear like wide-spread folds, volcanic eruptions and ground depression along faults, leading to the formation of a multitude of topological high and low grounds in the province. In the course of time, these reliefs have been influenced by erosive factors and have found their current forms. From a geographical and regional point of view, topographical contours can be classified into high mountains and relatively flat lands. High grounds comprise a wide area of *Zarand*, *Ravar* and western *Rafsanjan* towns and are greatly affected by faults. *Dararsu peak* with a height of 3545m is the highest point in the province. *Kuhbanan* fault is located at a distance of five kilometers from *Zarand* Town with *Kuhbanan* town upon it. This fault is one of the youngest and most active faults of the province along which many earthquakes have occurred. Another characteristic of the region is salt domes of *Ravar* Country, which have made high mountains and have increased the salinity of subterranean and surface waters in the region. Winds blowing in dry lands play a key role in erosion as well as the living condition of Kerman Province inhabitants. High winds particularly in southern and eastern parts of the province during different seasons have imposed severe limitations upon the lives of indigenous people. Winds especially in *Bam* Town and its neighboring districts are under the influence of the 120-days winds of *Sistan* which not only have given rise to critical conditions in the environment but also have resulted

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<sup>1</sup> Vaziri Kermani, Ahmad Ali Khan (1945); "A Geography of Kerman", Pages:82-83.



in specific erosive formations. Strong winds accompanied by rolling sands during warm season especially at southern and eastern parts of the province aggravate living conditions and elevate the already high temperatures. Dominant wind direction in Kerman Province is westwards with slight variations in different seasons.

Kerman Province is situated in a low-pressure zone adjacent to tropical region but far from any source of moisture production, which result in its scarce rainfall. Due to high variability and irregularity of precipitations, frequent draughts take place influencing negatively provincial water resources. As a result, the presence of springs is among major factors contributing to the formation of mountain villages in Kerman Province because they make underground waters run on the surface. Additionally, they serve as sources of supplying drinking water as well as irrigation of cultivated lands. Approximately, three hundred springs have been counted in the province. Moreover, Kerman Province has a large number of *Qantas* which have been operating since a long time ago.

## **2- Name of the garden: *Bagh-e Shahzadeh (Mahan)***

*Bagh-e Shahzadeh* is located at a distance of 35km southeast of Kerman city and a distance of 6km from Mahan Town. It stands on Kerman-Bam roadway near *Jupar* highlands. It is situated in the plain at the northern skirts of *Jupar* mountain peak and the western skirt of *Pulvar* mountain which consists of Cerates lime depositions. Such depositions are important resources of water and occupy a vast area. The large difference of temperatures between day and night is one of the climatic features of this area.

*Bagh-e Takht-e Shahzadeh* (Prince's throne or flat garden in Farsi) is 5.5 hectares, rectangular shaped with an approximately 4.6% slope. The garden stands on a vast, open terrain which is encircled by far-off mountains on two sides and a high fence separates it from the harsh environment surrounding it. In particular, high *Jupar* mountains provide an eye-catching background landscape for the garden.

The great length of this garden compared to other gardens intensifies visual excitement by deepening the perspective. Among other outstanding features of the garden are its sonant fountains which make a water symphony in a *Baroque* like garden as well as the architecture of its *Sardar khaneh* (entrance –house) which will be examined later.



Fig . 2-194. Location of the city of Mahan

## 2-1- Location of Geographical

1a. Country (and State Party if different): IRAN

1b. State of province or region: KERMAN

1c. Name of Property: *Bagh-e Shahzadeh* (Mahan)

1d. Exact location on map and indication of geographical co-ordinates:

E: 57 ° 16' 59"; N: 30 ° 01' 30"



Fig . 2-195. General view of *Bagh-e Shahzadeh Mahan*

### **3- Features existing in the garden**

#### **3-1- Natural features**

##### **3-1-1- Garden plants<sup>2</sup>**

Garden vegetation follows a completely regular and calculated design. The specific tree planting design of the garden and appropriate selection of plants have played a key role in making shadows as well as suitable colorings during different seasons of the year resulting in a varied, hilarious and healthy environment at the middle of desert. Plants arrangement system has been based on the shadow casting pattern of the garden so that along the main axis of the garden, a shaded section is seen on one side of the route at all hours of the day. Cedar trees beside the transversal pivots of the garden cast shadows upon the line of motion.

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<sup>2</sup> Mirfendereski, M.A (2003); "Abar-Dasht Consulting Engineers, Restoration and Revitalization Plan of Bagh-e Shahzadeh of Mahan- Kerman".

Generally, trees play not an individual but a group role in general pattern of the garden but for an exceptional case which is a pine tree standing alone along the main axis of the garden south of the upper chamber. This tree serves as the focal point for the entire geometry of the garden.



Fig .2-196 . General view

Selection and arrangement of plants in *Bagh-e Shahzadeh* of Mahan plays a determining role on the garden identity. Plants and trees seen in the general region of Mahan's *Bagh-e Shahzadeh* include:

- 1- The ever-green and wind-breaking trees: needle-leaved trees such as: pines and cedars
- 2- Shadow-casting (Adumbrant) trees: *Phyllode* trees such as wild and canopy elms, ash trees, plane trees and aspen (white poplar). In addition to making shadows, these trees are resistant in local conditions.
- 3- Decorative plants: such as decoration cedars of *Piracanta*, decorative *Juniprrus Communis* (mountain cedars) and *Shirekhesht* which produces small flowers during winter time.
- 4- Fruit trees are planted in *Karts* which create a beautiful colorful view from the upper chamber angle in fruiting seasons.



Fig. 2-197. Placement of planets in garden  
*Bagh-e Shahzadeh, 2003*



Fig . 2-198. Colore changing in seasons *Bagh- e Shahzadeh. 2003*

Inside the spaces between karts, a wide variety of fruit trees are planted such as: grape, apple, pear, apricot, pomegranate, quince, peach, black plum and other indigenous fruits. In the main axis flowerbeds, unseasonable (perennial) flowers have been planted in a symmetrical fashion relative to the axis. The *Karts* opposite the upper pavilion have an ever green context (lawn) in which perennial flowers have been cultivated sporadically.

Furthermore, following an old Persian tradition all around water basins are adorned with flower pots in which beautiful flower bushes have been planted giving the garden a lovely landscape.

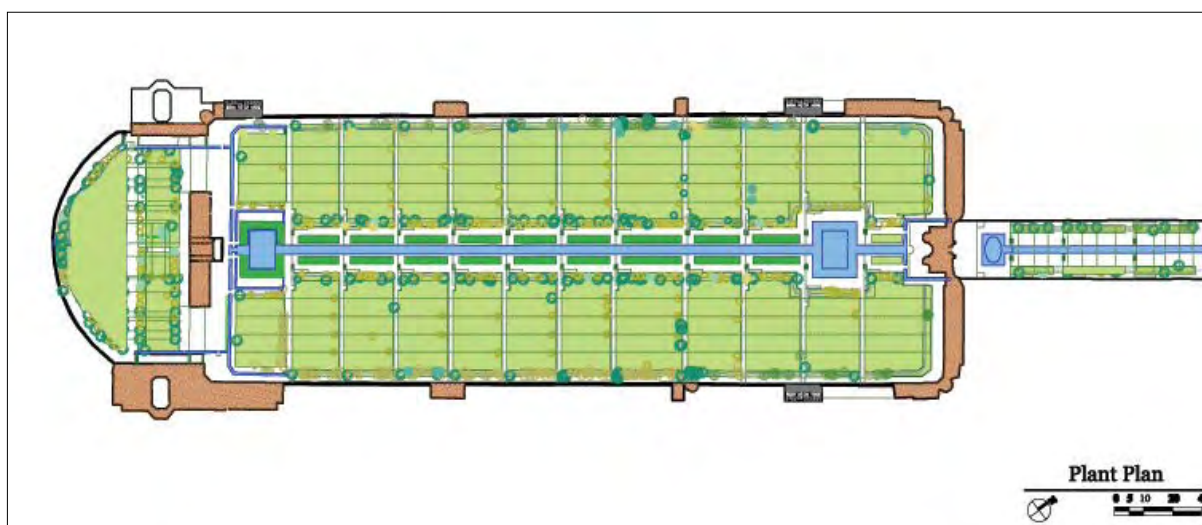


Fig . 2-199. The location of trees in *Bagh-e Shahzadeh Mahan*

### 3-1-2- Water

Water which is the vital source of life in this garden arrives in from its upper section. Main and subsidiary axes as well as flat *Takhts* (steps) are irrigated in a regular manner, generating a lush and matchless green space within the garden grounds. Water entering the garden is distributed longitudinally in such a way that not only irrigates karts and tree linings along walkways but also utilizes the steep slope of the ground which is one of primary conditions for *Takht* gardens, subsequently it runs upon the main middle axis of the garden in the form of a large stream and on its way creates cascades and jets which make it the principal quality element in *Bagh-e Shahzadeh*.

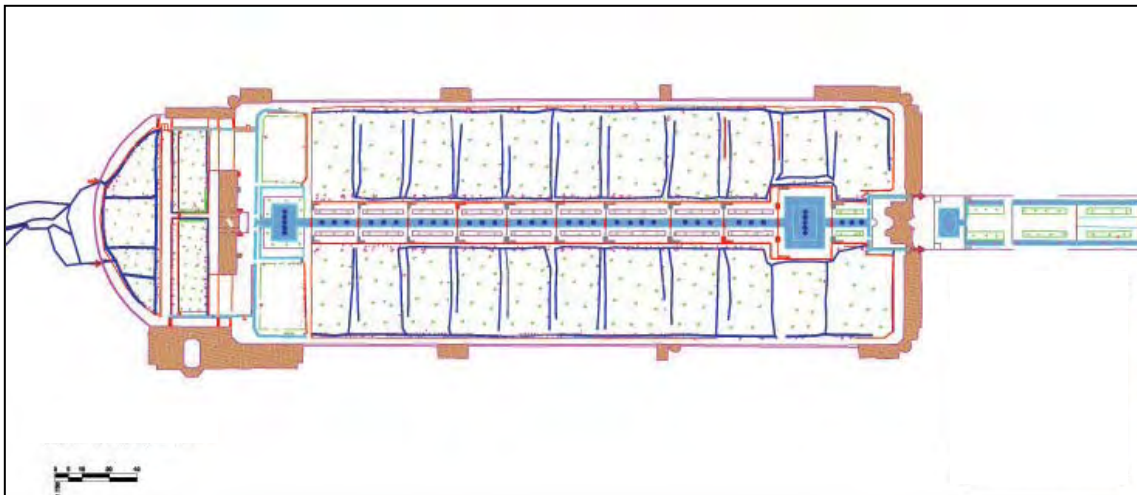


Fig .2-200. The course of circulation of water in *Bagh-e Shahzadeh Mahan*

At the two ends of the main axis i.e. the first *Takht* upon which the garden pavilion stands as well as at the garden entrance opposite the frontispiece-house, there exist two pools whose large surface, ejaculation of jets water and their noise, adds to the pleasant atmosphere of the garden.



Fig . 2-201. The basin and fountains

Fig. 2-202 . View of the *Sardar khaneh*

The only building in the garden is the main pavilion which serves as the permanent or temporary residence of its owner located at the upper part of the garden. Among characteristics of *Bagh-e Shahzadeh* are its relatively long length which deepens the perspective more than other gardens as well as its beautiful landscape and its noisy high jets of water which play a soothing symphony.

The main inner views such as water motion, basins and cascades each highlight the axes perpendicular to the main axis and together with its vegetation system present lovely internal views of the garden. The three main courses of water current have been built upon the middle longitudinal axis in a hybrid fashion so that amid the large stream stand the fountains and on either side of walkways, shadow casting trees have produced a pleasant atmosphere for walking and stopping. High walls near the double longitudinal side axes, separate the garden from the surrounding desert. Land arrangements of garden *Takht* as well as its layering by way of *Kart* surfaces expose the garden grounds to the eyes like mirrors. Therefore, the simple relationship between the observer and the flat ground is enriched resulting in the intensification of the role of land topography upon garden space.



Fig . 2-203. The irrigation canal before the garden



Fig. 2-204. The basin in entrance space

The water current and pools not only highlight the axes and the all-around fountain but also create cascades that provide transparent surfaces on the ground for reflection of other features. Shadow casting trees along the axis emphasize and intensify coordinates of garden space configuration. Extension of the main axis through the middle of the garden as well as water current running along it, creates a shaded refreshing atmosphere. Moreover, it defines the garden space according to its geometrical system by making vertical plant surfaces with different degrees of transparency.

Two groups of transversal and longitudinal axes that are perpendicular to each other are distinguishable.

Opposite the frontispiece-house at an appropriate distance, the last cascade of the garden runs which is followed by a waterway joining the main entrance pool outside. High jets are seen in the middle of the major entrance pool as well as the distance between it and the end waterfall. The vital source of life in *Bagh-e Shahzadeh* is water currents originating from nearby mountains. *Tigran Qanat* which takes its rise in *Jupar* highlands, supplies the water needed for this garden. Its current arrives into the garden from the highest surface and creates the irrigation system designed for it. At present, the water is mixed at the upstream with mud in order to make it possible to deliver water to the garden and prevent its depositing and wasting. This procedure is more necessary in summer due to water shortage but the water is wasted considerably anyway.





Fig .2-205. Lightening of waterfalls at night

Irrigation system in *Bagh-e Shahzadeh* is essentially based on two principles. First, watering garden plants and second, exploiting the entities and qualities that water can create in the garden. Designer of this garden not only has resolved the first problem but also has resorted to unique innovations. Water distribution in transversal and longitudinal paths of garden is in this manner: water current flowing into the garden from the far end of it is divided into five longitudinal branches. Its most major branch is the route superimposed on the main axis of the garden and carries the permanent water flow. This route is branched off the large basin located in front of the main building which after passing various *Takhts* and creating cascades and small basins splashes into the entrance precinct basin. Cascades and water noises play a key role in creating a relaxing atmosphere in the garden. In order to increase this effect, stones were laid beside cascades to boost the water current noise and turbulence.

On either sides of this axis along central walkway lines, two water currents flow temporarily from top to bottom in order to irrigate karts and major trees. Two other top to bottom paths also exist on garden side which are used to irrigate karts as well as lateral row trees. The water flowing on central axis runs permanently and after making cascades and filling basins goes out of the garden from either side of the frontispiece-house pavilion and irrigates the pre court yard. Then it reaches the remains of a long *Chahar Bagh* which bypasses the tomb garden and finally goes through the village for irrigation purposes.

A historical photo indicates that the step wise motion of water in the middle axis continued to outside the garden. At present, this space has been reconstructed with incomplete porches and paved. Two main pools of the garden had jets at their upper portions as well as their entrances which used to make the water jump to considerable heights. Such solution is rare in Persian Gardens and is certainly under the influence of a study of European gardens and springs.

*Bagh-e Shahzadeh* of Mahan obtains its water from *Tigran Qanat* on mountain foot of *Jupar* whose water traverses a long distance in a canal to reach the garden and after fulfilling its water requirements continues its way toward Mahan Town in order to irrigate some of its cultivated field.

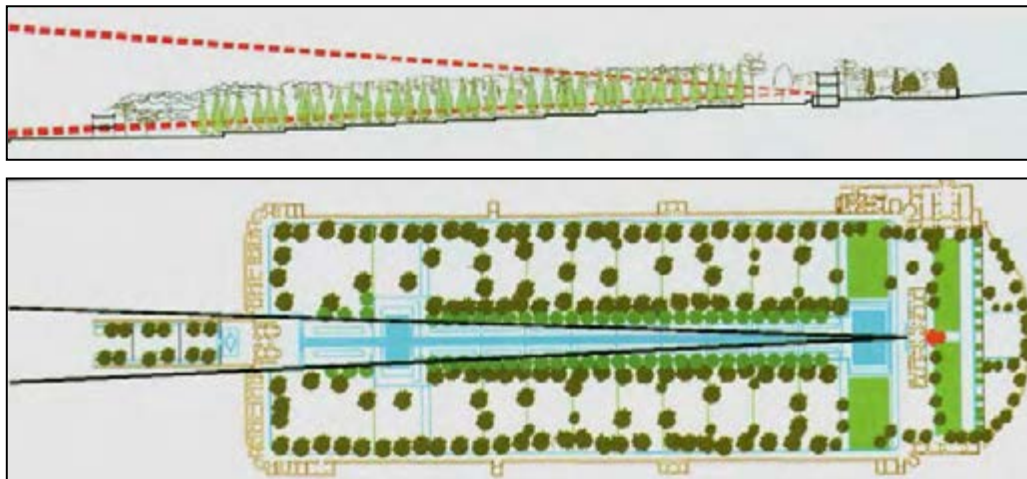


Fig. 2-206. Plan and showing of the view from pavilion

### 3-2- Architectural features<sup>3</sup>

The architecture system of *Bagh-e Shahzadeh* has a close relationship with its spatial system and geometrical configuration. Garden buildings have been classified into three categories. The main building stands on the highest level. *Sardar khaneh* is at the entrance section and other service structures are adjacent to the major wall and outside of it. Areas of the upper chamber and frontispiece-house are 487 and 234 square meters respectively with a distance of 325m in between.

<sup>3</sup> Mirfendereski, M.A (2003); "Abar-Dasht Consulting Engineers, Restoration and Revitalization Plan of Bagh-e Shahzadeh of Mahan- Kerman".

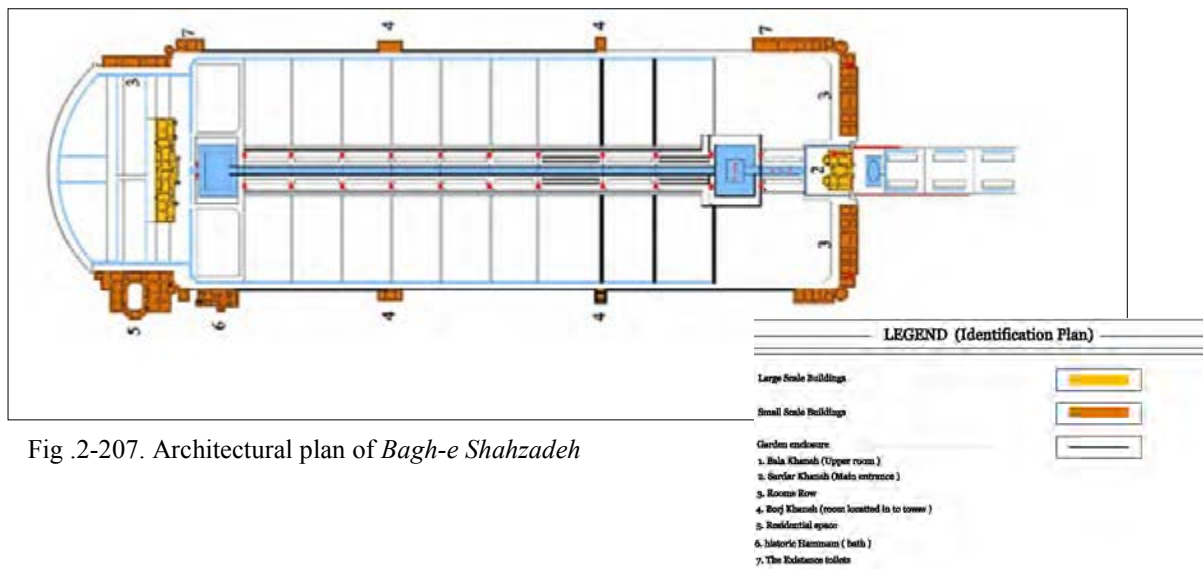


Fig .2-207. Architectural plan of *Bagh-e Shahzadeh*

The yard of the entrance fore-court consists of two latticed and arched walls which enclose three *Takhts* (steps) initially like main *Takhts* amidst which cascades are seen. Two rows of trees on the either side of this space is the continuum of treed rows on either sides of the main axis with the exception that plane trees are used. Then trees planted on the either side of the long entrance yard extend along the axis linking the garden to *Tigeran* divider. Here, a *Chahar Bagh* form is seen enclosing the Safavids era garden-tombs and other features.

*Sardar khaneh* of the garden is located in the middle of the lower short side of it between the garden proper and the entrance fore-court and as such comprises the entrance function, inner spaces linked to it as well as the landscape of the upper floor. The building shows a recess of its perimeter wall toward the garden from outside. But from inside shows a significant projection of side wings with respect to the body. This move has been achieved by using two curvatures in a way that the netted wall enclosing the entrance fore-court falls in between these two curvatures. From outside the fore-court, the convex curvature and from inside the fore-court, the concave curvature are observed. Entrance gate of the garden with a height of three meters is in the middle of the frontispiece-house structure. Between the gate and the inward looking opening of the garden, there exists a middle space with a length of 10.5 and a width of 9.5m. Each stairway of side rooms on the either side of the space stands as diagonal bi-steps leading to triangular landings.

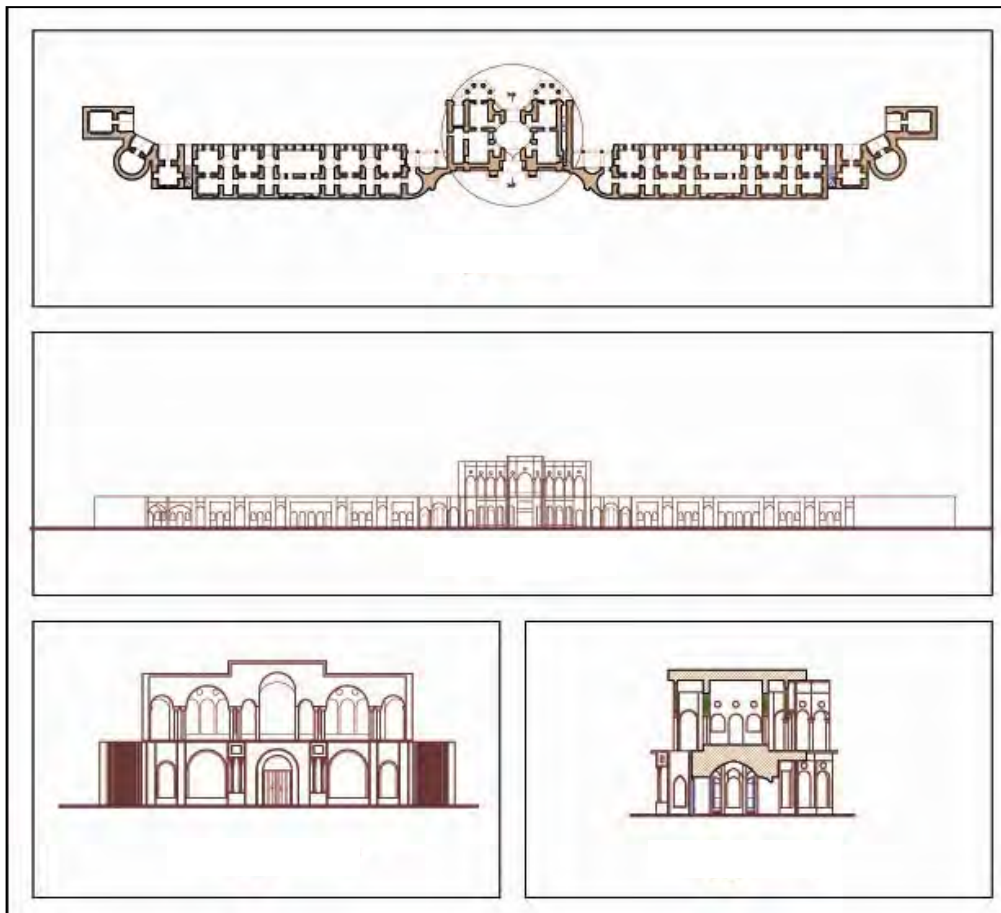


Fig .2-208 .Plan, section and elevation of Sardar khaneh

There is a recess in the pier that creates an opening in the smaller side of triangles towards the landing. The roof of the middle space is like a domed shell with stucco details. Side rooms are separated by thick walls and two flank wings from outside the garden but have access to garden via porticos shaped like half a hexagonal. Access stairway to the upper floor has been inserted in an asymmetrical manner on one side of one of these projections and also creates an inner space under the steps.

Connection of the building to side wings of a floor which also has exit points for garden waters is very interesting because direct encounter between wings and building has been prevented. Additionally, by generating two inward curves in garden wall which could be of European features effective upon Qajars architecture, two roofed porticoes have been formed on either side which enclose exit basins. As a result, problems regarding water exit from the

garden and the wish for relative separateness of the frontispiece-house from its sides has been resolved adequately.



Fig .2-209. Sardar khaneh (Entrance house) exterior view of Bagh- e Shahzadeh, 2003

The main forward and backward facades consist of five sections. At the exterior façade, the midsection has been separated from both sides by two neighboring columns in upwards and downwards positions. This has been highlighted by elevating the roof line slightly. Due to usage of two small arches on either side of the middle arch, this part of the façade is narrower than its sides divisions which are a large arch and a small arch at the end respectively. They are again separated from each other by two neighboring columns at the open upper floor.

On the ground floor too, the double adjacent columns on the either side of the entrance are the continuum of the upper floor columns. The sides have brick frames without any opening.

The inward looking façade of the building is also quite specific and it can be said that it is a kind of Baroque due to the increased contrast between forward and backward features and usage of columns and curves in this direction. In particular, it is a reminder of theatrical or operatic scenes in Baroque style which were used in garden landscaping of the period. Two projected volumes which are in the form of half a hexagonal are among main features of the façade which are almost matchless in Iran.

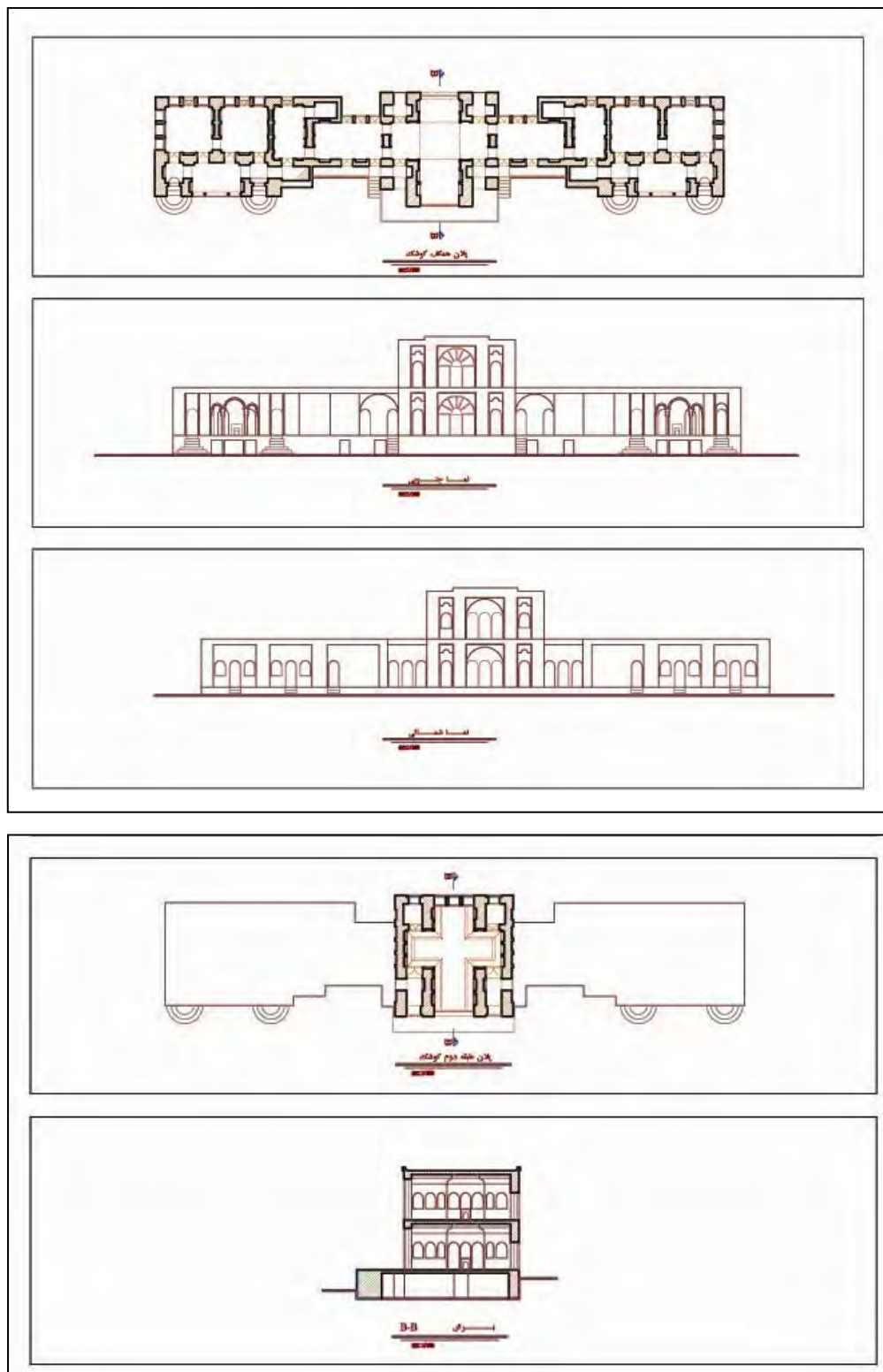


Fig . 2-210 . Plan, section and elevation of Kushk and Bala khaneh

The upper chamber structure which is 9 by 52 square meters, is the only single structure separated from the perimeter garden wall which has projected slightly relative to the upper side of the main rectangle. It stands symmetrically upon the main axis, almost at its highest point and is regarded as the terminal point of the axis.

The upper chamber structure was allocated to residence of the prince particularly during cold seasons. One of its significant features is the usage of a half circle arc (under the influence of western architecture) which is seen clearly on the entrance gate. Small circular orifices above upper floor arches are among other characteristics of the building. *Abchekans* installed above the first floor as well as around the roof are made of bricks, wood and tiles and are not much noticed although very interesting features. Thus, the part of garden located behind the building and limited to the curvature wall at its highest spot is slightly more private but a bit further than the main space of the garden.

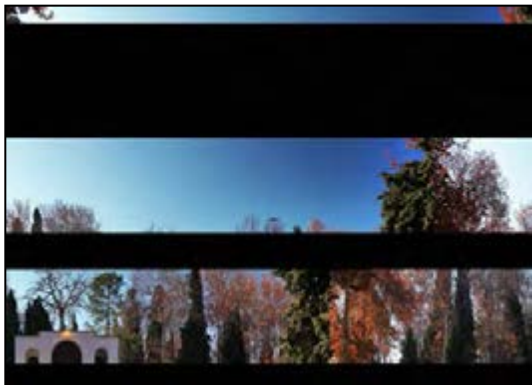


Fig.2-211.Front view of Bala khaneh (Pavilion)



Fig . 2-212. Aerial photo of Bala khaneh

The building consists of a two and a half floor volume in the middle as well as two one and a half floor wings. The central volume located toward the main space of the garden has projected relative to shorter volumes. This position is highlighted by formation of a large terrace of 4.5 by 10.5 square meters. Access to the half floor level is made by stairways parallel to the main axis in a direct manner without any pause. As a result, the integrated volumes of steps stand like pillars under the main façade.

In this structure, the aspect towards the general space of the garden is the main façade with openings larger than those of the façade at the back. In the meanwhile, the double side aspects each have only three small orifices. The underground entrances have also been

emphasized and inserted toward the side of the main façade. The inner space of the underground has a relatively low height with intricate small spaces. Despite having an apparently simple architecture, the building is rich with respect to volume, spatial intricacy and relations which make it more interesting. Uniform surfaces of the structure have been plastered with white coatings but lack any ornaments. Here, exactly like the *Sardar khaneh*, semi circle arches have been used in openings. Its sash windows as well as its balustrades are wooden. Inner surfaces are simple and integrated with small-sized chimneys installed at different spots. Pointed and small smoke stacks of these stoves are quite interesting.

*Zaeem Bashi* house stands in the southern section of the garden opposite the upper chamber and has a central yard. The complex is atop the bath room and has been separated by the guarding tower cylinder in the corner from the bath house. Due to its more depth relative to other surrounding rooms, it has generated more projection from the perimeter wall of the garden particularly at the back of the central yard. The building has one floor and one central yard and in fact is the only unroofed enclosed space aside the garden ground itself. In addition it is the only remaining structure from the central yard.

The central yard of the complex is a rectangle shaped area with cut corners and dimensions of 14 by 8 meters. It is positioned in a way that its small side is toward the garden. But its entrance does not stand upon the axis of the rectangle. Instead it is at one corner at the end of the motion axis behind the upper chamber. From inside the yard some recesses have been made on the sides of the rectangular yard which create semi open spaces within which occasional chimneys have been installed. At present, the central yard is also connected to outside of the garden.



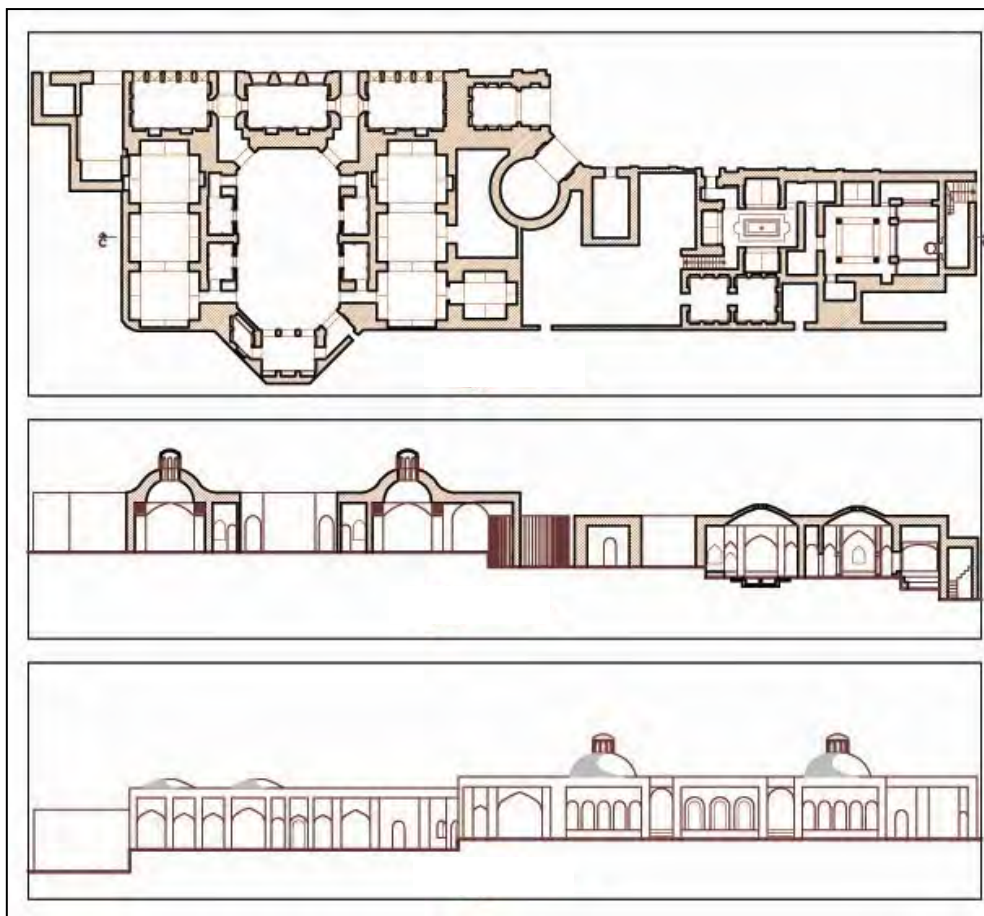


Fig. 2-213. Plan, section and elevation of Zaeem Bashi house and Bath room

Despite being known as *Zaeem Bashi* house, its original function is unknown but it has probably had other functions such as keeping domesticated animals. One of the noteworthy points about it is that surrounding rooms have fewer openings than the central yard and lack any large windows. But the rooms are relatively large sized covered with a few domes. At the same time, just like the two other main buildings of the garden, the complex has a relatively complicated plan as well as attractive spatial arrangements. The structure has been restored recently but its decorations lack authenticity and are not the least congruent with other garden structures. The building is made of bricks and plaster. Moreover, it is roofed with several domes and at present is used by a resident caretaker with part of it serving as a kitchen. The structure has been included in the plan approved for setting up a restaurant.

By the way, the plan of this part has been deemed reusable for constructing a special residence at the opposite side of the garden because it provides an appropriate architectural pattern in which the central yard is utilized to set up necessary facilities behind the garden wall.

The largest number of inter-connected rooms is seen further down the garden on either sides of the frontispiece-house which has a depth of 9/10m (two rooms) but after cylindered watch towers and the ninety degrees rotation of rooms, this value is reduced to a depth of 6/90m (11 rooms) in longitudinal bodies. Afterwards, watch towers and small rooms linked to them are seen standing upon axes which almost divide the large rectangular garden into three sections.



Fig. 2-214 . The bath room



Fig. 2-215. Zaeem Bashi house Bagh-e Shahzadeh, 2003

Finally, at the top section and leaning to one side is located *Zaeem Bashi* house which has a bath house and a central yard. Opposite them stand row rooms similar to the downside of the garden. The upper watch towers which stand at the upper corners of the large rectangle arise out of these rooms.

The row of lower rooms on the either side of the frontispiece-house is quite symmetrical and extends to the last room before the watch tower with an outside to outside depth of 9/10m (two rooms). Then the depth of last rooms before towers is reduced similar to those rooms perpendicular on wings of the either sides of the *Sardar khaneh* to 7/50m. Apparently, this is done in order to establish symmetry at corners as well as inserting tower cylinders between

walls with equal lengths. As a result, because of more depth on the either side of the frontispiece-house, inner spaces of this section have been bisected at their depth. In the meanwhile, rooms at the back of long walls (except for the bath room) produce only a single space at the depth.

Except for end rooms, each wing is consisted of one large room with inner columns and internal dimensions of 5.5 by 6m at the middle as well as four narrower units with inner dimensions of 2.67m on either side. The whole five units are separated by four corridors. Meanwhile, the narrower units have only one opening in the façade with a width of 0.78m. But the large middle unit, not only utilizes a column at its interior but also makes the façade more explicit by dividing it into five arched openings each with an approximately one meter width. The back walls also produce necessary projections along piers on the either side of the openings to bear the roof load possible. These rooms have been made of bricks and plasters at the direction toward the garden and thatch coating at the direction towards the outside. Floors are made of bricks and are higher than garden ground about three or four steps.

Garden area has been encircled by a high, composite wall which separates the garden from the outside world by structures inserted inside of it or by occupying part of the outer area. These structures are built in parallel or vertical directions relative to the almost southwest to northeast axis of the garden. Inside the garden fence, there existed in various periods of time: a simple wall, watch towers, main entrance, side entrances as well as structures of diverse significance such as: *Zaeem Bashi* house, bath house, guarding station or store rooms.



Fig .2-216. Aerial photo of Bagh- e Shahzadeh

Cylindrical watch towers stand at the four corners of the main rectangular in such a way that they are fully visible on the lower side and at two corners. But from above, the upper cylindrical watch towers are less visible because of standing between the rectangle and the space behind the pavilion. By the way, lower towers have been designed in such a manner that cylinders stand between two walls of almost equal sizes. Due to less depth of lateral bodies, this has achieved by making a shallow tooth after the first corner room. A curved wall closes the end of the garden and the tree row at this end intensifies its curvature. The curve has also been used in the connection between the entrance structure and the garden. Here, two curved quadrants form an S-shape which is the point where the entrance pre-court wall reaches during its rotation. The highest volumes used are the two floored entrance structure as well as ramparts slightly higher than walls.



Fig. 2-217. The rooms around yard



Fig. 2-218. The eastern side gate of garden

Openings of perimeter rooms consist of a row of narrow semi-circled arches in which vertical emphasis in their proportions (ratio of width to height) have given them great delicacy. These gaps are inside the bodies and large brick frames. They have been generated directly and deeply so that the surface on the side of openings are covered with plasters. This has maximized the contrast between the full and the empty which has also been heightened by lack of any decorations. Wall surfaces at spots without any rooms have been coated with thatch plaster. As a result, from the outward side the soft plastic motions of thatch link the rectangular geometry of the interior to the surrounding nature of the exterior.

Materials used in garden buildings are mostly sun dried-bricks or mud-bricks with a plaster of thatch and gypsum which have been adorned by *Nareh* tiles at spots such as the frontispiece-house. The upper chamber structure is completely covered with plaster. Garden wall is made of thatch plaster but near the *Sardar khaneh* and upper chamber, a mixture of bricks and gypsum plaster has been used on surfaces beside the openings in order to build the row rooms.



Fig. 2-219. The materials of Zaem



Fig . 2-220. The materials of Sardar

Generally, decorations related to the architecture are observed in the frontispiece-house. Decorative features include: paired columns, beautiful *Abchekans* made of wood, tile or brick both above the first floor and roof perimeter, interesting design works using *Nareh* tiles in parapets as well as a variety of geometrical and floral patterns. In addition, beneath the central space dome of the entrance gate has been covered by stucco ornamentations. The body of the upper chamber has simple decorations. Its noteworthy features comprise sash windows, wooden rails and stucco *Muqarnases* built upon a few vaults above entrances to the building. Decorative columns, tile works (following Qajars style), stuccoes, plaster moldings, etc are also seen in bath house.

Garden floor surfaces are mostly made of a mixture of rubble stones and cement mortar. The mixture has been decorated by geometrical designs both around the upper chamber and the frontispiece-house. Bricks have been utilized in stairways as well as flowerbeds margins and stones are seen at the border of *Karts* with walkways and other edges.

#### 4- Garden typology

Persian Gardens except for those constructed to serve as Mausoleum precincts which have a public function always have been enclosed areas belonging to the wealthy or the kings with exclusive functions<sup>4</sup>.

Accordingly, *Bagh-e Shahzadeh* that served as the temporary residence of the governor of Kerman and Baluchistan (*Mirza Naaseroldouleh Farmanfarma*) probably was also used for large reception ceremonies in which the double open areas opposite the frontispiece-house and the upper chamber were suitable for such a purpose.



Fig .2-221 . Garden in Pahlavi period (19<sup>th</sup> century )

*Zaeem Bashi* house indicates the fact that the garden had another resident aside its real owner who frequented it only periodically. But this man was a permanent resident who served as the caretaker of the garden. Later, the ownership of *Bagh-e Shahzadeh* was transferred to other people:

"*Bagh-e Shahzadeh* which is regarded as one of the largest and most beautiful gardens of Iran is among structures built by Prince *Abdolhamid Mirza*. Most of the garden and its main buildings

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<sup>4</sup> Aryan poor, Alireza (1986); "A Research for the Identification of Persian Gardens and Historic Gardens of Shiraz".

were constructed during his eleven years rule. At present, part of the garden belongs to *Sarkar aqa Abolghasem Khan* and the other part is owned by few *Kermani Zoroastrian* landowners."<sup>5</sup>

As mentioned before, there are various classes of gardens such as: hunting-ground gardens, parks, castle-gardens and residential-gardens.

*Bagh-e Shahzadeh* at the time of its construction in the Qajars era was regarded as a pleasure garden as well as a residential one. *Zaeem Bashi* house and the old bath room south of the garden as well as other service sections house are clear evidence of its role as a residential garden. Two large areas in front of the frontispiece- and the upper chamber which have wooden fences show that *Bagh-e Shahzadeh* not only had a residential function but also was used for entertaining guests and holding ceremonies. The frontispiece-house was utilized as a dwelling space particularly in summers. Rooms around the frontispiece-house were also used for residing or storing things. Yet another residential section was the afore-mentioned structure known as *Zaeem Bashi* house which was used as a permanent residential place. Therefore, other service facilities such as the bath room were also annexed to it. The old bath room which stands south of the garden opposite the residential quarters is now out of service but is frequently visited by tourists.

In another classification, the garden can be considered as a *Takht* garden.

### **5- Some special and outstanding point about *Bagh-e Shahzadeh***

*Bagh-e Shahzadeh* is a sample of *Takht* Persian Gardens which due to its geographical location as well as its usage of innovative methods in dealing with adverse environmental conditions enjoys unique values. Some of them are mentioned below:

From a technical point of view, it can be said that the designer of *Bagh-e Shahzadeh* has introduced such exceptional innovative measures in the irrigation system of the garden that not only the goal of watering the whole garden has been fulfilled but also potential qualities that water can generate in a garden have been achieved. For example special arrangements have been enforced to orchestrate a permanent water symphony in the garden as well as the

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<sup>5</sup> Mirfendereski, M.A (2003); "Abar-Dasht Consulting Engineers, Restoration and Revitalization Plan of Bagh-e Shahzadeh of Mahan- Kerman".

ingenious blending of nine fountains and nine cascades which is considered as one of the most artistic manifestations of garden landscaping in Iran.

On the other hand, there are features in the garden that seem matchless among all Persian Gardens such as: designating a pine tree in the south of its main building as the focal point for the entire garden geometry, multiple jets with the highest jump of water seen in Persian Gardens as well as other afore-mentioned features.



Fig .2- 222. Basin and fountains



## ***Bagh-e Dolat Abad- Yazd***

### **1- Introduction**

Yazd province has an area of 72156 square kilometers and is located in central *Iran* with these geographical coordinates: 52°, 50' eastern longitude and 56°, 40' northern latitude. *Abarkooh, Ardakan, Bafq, Taft, Mehriz, Khatam, Sodogh, Tabas, Meybod* and Yazd are its towns and cities. Population of the province in 1375 solar AH (Iranian local calendar)(1996) was around 750,769 of which 15.75% lived in urban areas and 85.24% lived in rural areas. The city of Yazd is the most populated of them all and is the political and administrative capital of Yazd province. The province is located in the vicinity of the central mountain chain of Iran and consists of several high- and lowlands, desert pans and pits. Its relieves are made of plains, deserts, sandy deserts, sand hills and mountain foot hills.

There are two distinct mountain ranges in the province. The first is part of the mountains which cross Iran in a north-west to south-east direction and are known as Central Mountains of Iran. The second are mountain chains situated in the central, northern and eastern parts of the province called *Shir-kooch* (Lion Mount in Farsi) which divide the central parts of the province from its western parts (*Abar-qoo* Pit) *Shir-kooch* peak is permanently covered by snow and this ice mass has a key role in supplying water of Yazd, Taft and Mehriz.

Yazd province climate is dry for two main reasons: Firstly because it is located upon the so-called dry belt of the earth and secondly because it is far from high seas such as the Persian Gulf, Oman Sea as well as inland lakes and humid sea winds. Therefore, the important factor contributing to the relative moderation of Yazd weather are the highlands surrounding it which have made it inhabitable. This has a positive effect upon the provincial climate especially in regions higher than 2500m which enjoy more optimal humidity and temperatures.

Average temperature of the province is 9-18 centigrade with an absolute maximal temperature of 43 and an absolute minimal temperature of -2.7. Except for *Shir-kooch* mountainous region, other

parts of Yazd province have a desert climate which is hot and dry. This kind of weather is seen less in the west or south-western areas and more in north-eastern and eastern areas.

## **2-Name of the garden: *Bagh-e Dolat Abad***

The city of *Yazd* is located 1215m above sea level and is surrounded by deserts and sandy lands. The highest peak of the county is *Shir-kooh* with a height of 4075m. *Bagh-e Dolat Abad* is one of the monuments remaining from Zands dynasty and with its area of about 40,000 square meters, is regarded one of the most famous gardens of *Yazd*. Its main entrance opens in its western side towards *Dolat Abad* Boulevard. But the present public gate is at its southern side opposite the floodway. In addition, there is another gate located north of the complex which connects the garden with its surrounding context and opens into *Enqelab* Street.<sup>6</sup>

### **2-1- Location of Geographical**

**1a. Country (and State Party if different):** IRAN

**1b. State of province or region:** YAZD

**1c. Name of Property:** *Bagh-e Dolat Abad*

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 54° 21' 6.59"; N: 31° 54' 12.30"

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<sup>6</sup>-Report about documentation of Yazd gardens: Cultural Heritage and Tourism Base of Yazd Province.



Fig. 2-223. Location of Yazd in Iran map

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Fig. 2-224. Aerial photo of Bagh-e Dolad Abad, 2009

### **3- Features existing in the garden**

*Bagh-e Dolat Abad* features are divided into two groups of natural and artificial features which together shape the garden body. Artificial features are made of the general geometrical design of it in which natural features lay beside architectural ones. The latter consists of private and public spaces each having structures compatible with required functions and spaces. For example the private space includes summer and winter mansions and their related spaces. The public space consists of the in *Sabat* (archway), cistern and *Talare Ayeneh*. Among natural features of the garden are trees, bushes and of course water which is the most important formative element of the garden.

#### **3-1- Natural features**

##### **3-1-1- Garden plants**

There are plenty of trees in *Bagh-e Dolat Abad* mostly pines, cedars and fruit trees. Fructiferous trees include grapevine and pomegranate planted inside *Karts*. Pine trees are positioned in two rows along the main axis of the garden and between winter and summer mansions. These trees have been substituted in the course of time and it has always been tried to replace decayed old trees with new ones. The oldest tree of the garden is an ancient mulberry tree located along the main entrance path of it.

The garden is made of seven principal flowerbeds which are separated by water brooks and specific trees have been planted in each one of them. There are two flower beds at the north and south of the summer mansion that are mainly allocated to pomegranate trees with a few cedar trees alongside the water brook. In the two flower beds beside them mostly grapevines have been planted inside *Karts* which are irrigated by water brooks. In the two western flower beds of the garden, predominantly pomegranate trees and occasionally fig and olive trees have been planted. One of these flower beds is north of the pine trees row and the other is at the southern section.

At the western part and opposite the winter mansion, a palm tree is seen which is distinguished among other trees of this garden due to its exotic type. Outside the main fence of the garden at the south, a pomegranate garden has been built in recent decades.

Additionally, at the western section the project of constructing a modern garden based on Persian *Chahar Bagh* is underway.



Fig. 2-225. *Bagh-e Dolat Abad* green space, 2009



Fig . 2-226. The location of trees in *Bagh-e Dolat Abad*

### 3-1-2- Water

Water flaunts in a prominent manner in *Dolat Abad*. The main route of *Dolat Abad Qanat* was at its south eastern side behind the summer mansion which after linking to a small basin at the back of the building was divided into two branches. One branch ran toward the cook house at the eastern side and the other branch went into the basin beneath the wind catching structure and subsequently entered the four basins inside the structure which were installed at a lower level than the first basin. Here, water entered the three basins outside the building and then flowed into brooks at the either side of the middle Kart before reaching the frontspiece house. Afterwards, water entered a beautiful water wheel (*Abgardan*) which has been completely destroyed. Then water appeared from beneath the frontspiece house of the winter mansion and poured into a large pool with twelve sides and finally after filling the three pools existing beside the first one, reached village alleys and agricultural fields.

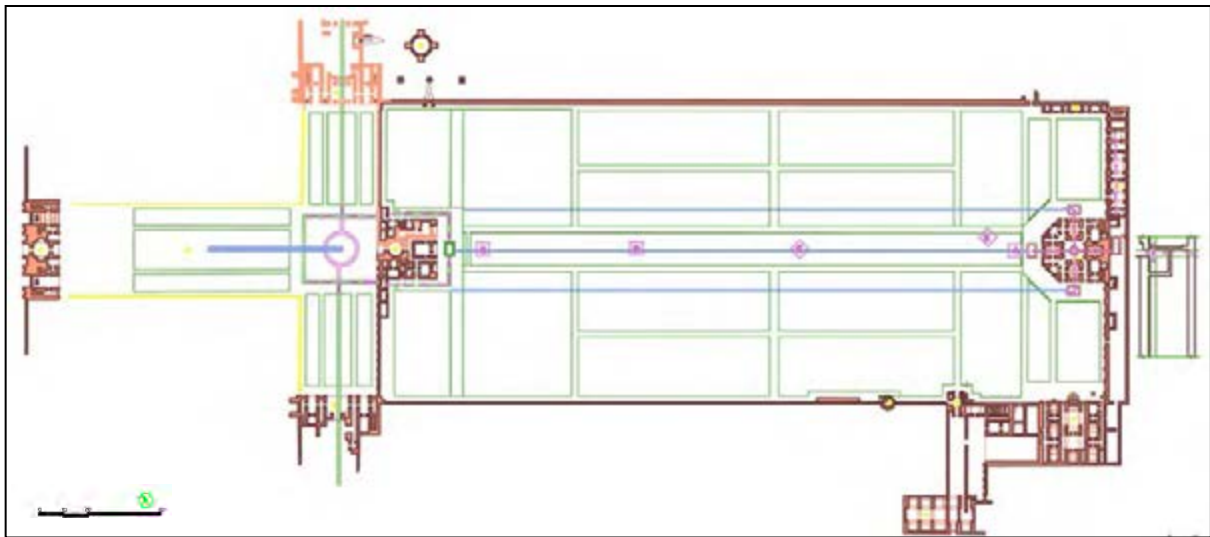


Fig. 2-227. Water circulation in the garden

According to some oral narrations, gutter floors between these basins were covered by the so called *Sineh Kabki* marbles which can still be seen near the southern basin of the winter mansion.

The waterworks has changed gradually depending on the requirements of the time. For example, at a certain period of time a water jet has been added to the basin system and later when *Qanat* water was no longer sufficient to supply water for jets and basins, a well (so called *Chehelgaz well*) and *Gavro* system was set up behind the cook room at the eastern part of the garden. Although at present a deep well system is utilized to irrigate the garden.



Fig. 2-228. *Dolat Abad* hydraulic system, 2009

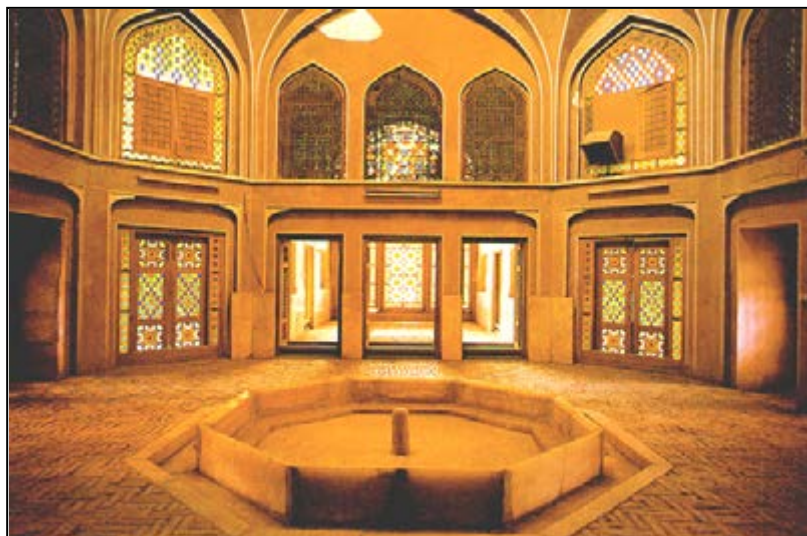


Fig. 2-229. *Dolat Abad* hydraulic system, 2009

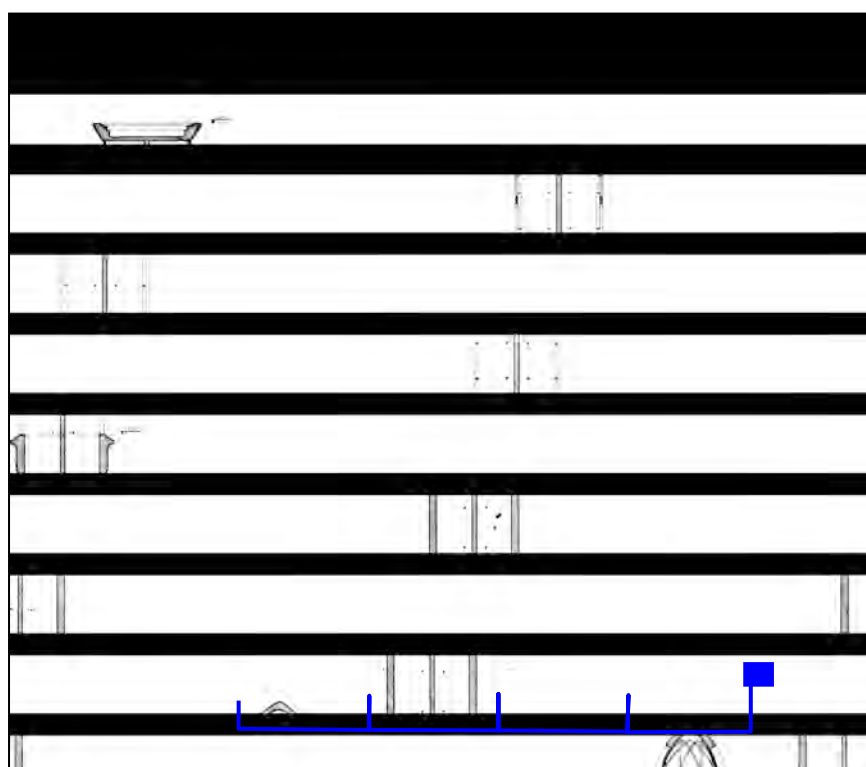


Fig . 2-230. Water circulation in the fountains of *Badgir* building



Among other prominent features of *Bagh-e Dolat Abad* is its historical *Qanat* which dates back to more than two hundred years ago. This *Qanat* is made of a combination of five smaller ones originating from Mehriz highlands. After irrigating part of Mehriz fields and spinning a few water mills, the *Qanat* water supplied the water of nearby villages such as *Abshahi*, *Khorramshah* and *Dolat Abad* and reached *Yazd* at a distance of more than fifty kilometers away.<sup>7</sup> Unfortunately, the *Qanat* was closed from its origin at a later time so that no water directly entered the city. For this reason a traditional method called *Gavro* was used to supply the water needed for the garden in which water was taken from wells and its basins were filled. But the garden never regained its former beauty and lushness. At present, the garden is irrigated from a semi deep well opposite it.

Aside the overall system expressed earlier, water appears at each space in its own unique manner. For example, by using water jets and basins at the wind catching structure, water serves as a cooling system and a factor for improving this habitat in the hot and arid climate of Yazd.

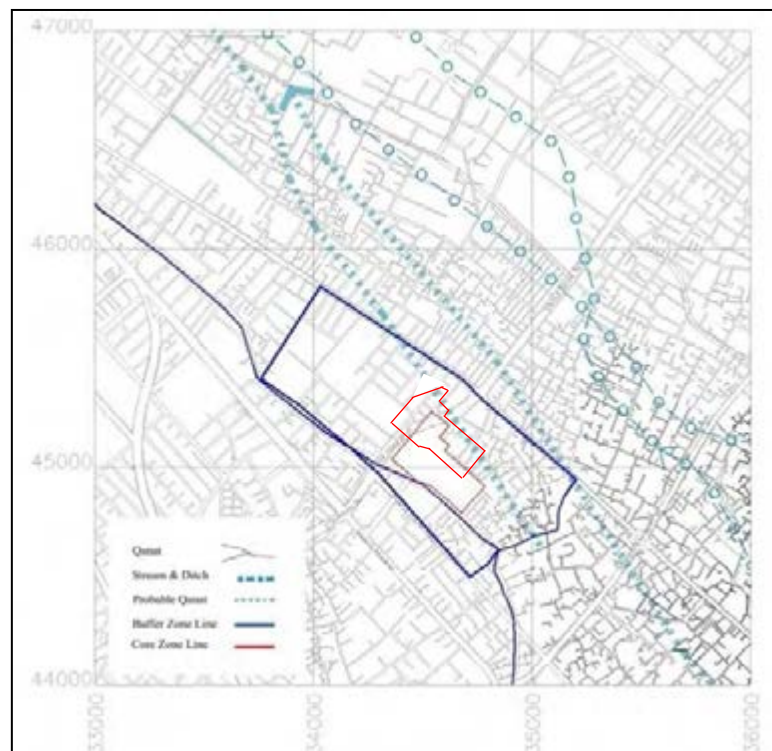


Fig. 2-231. Map of Qanat's path.

<sup>7</sup> - Afshar, Iraj (1995); "Yazd Souvenirs, Council of Cultural Monuments".

### 3-2- Architectural features

The constituent features of *Bagh-e Dolat Abad* are: *Talare Ayeneh* building (mirror hall building), frontispiece house, *Behesht-Aeen* building, *Badgir* building, *Haremsara* (women quarters), *Tehrani* building, servants quarters, courthouse, kitchen (cook house), archway, cistern, *Shotorkhane*, summer and winter stables as well as a *Qanat*, basins and multiple water brooks running inside the garden area.

The spatial structure of the garden consists of public and private parts. The public part has been divided into two sections by a strong axis which connects the summer residence to the winter

residence. The other noteworthy element encountered in *Dolat Abad* spatial structure is the positioning of this strong east to west axis which is also encountered in other Persian Gardens such as *Bagh-e Fin* of Kashan, *Tadj Abad* of Natanz, Shiraz gardens and etc.

By positioning this axis along the length of the rectangular arena of the garden, the architect has enhanced the spatial comprehension of the rectangular form of the garden so that the garden length and as a result its entirety is conceived larger and with a deeper perspective.

In designing the Persian Garden of *Dolat Abad*, the architecture(s) is looking forward to define a strong direction so that even when using two perpendicular directions, one of them is preferred over the other. This is actually the definer of garden space which manifests itself strongly in *Bagh-e Dolat Abad* and with the help of other design features presents the garden space much bigger and lovelier than what it really is.<sup>8</sup>

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<sup>8</sup> - Documentation of Yazd gardens: Cultural Heritage and Tourism Base of Yazd Province.



Fig .2-232. Architectural plan of *Bagh-e Dolat Abad*

The entrance to the *Andarooni* (inner) at the south eastern side of the garden is at present its main gate too which consists of three sections, namely: *Shotorkhan*, winter and summer stables. These two spaces are part of a frontispiece house used for keeping domesticated animals and consist of indoors and outdoors sections. The spaces are mostly covered by *Tavizeh* and *Kajaveh* (traditional way of covering spaces) vaults.



Fig . 2-233. *Andarooni* building, 2009



Fig .2-234. Stable building, 2009

Upon the main pivot of this building and at the entrance route to the garden, there is a water basin. On the right side of it are stables and on its left side is the *Shotorkhan*. After this structure, there exists a small yard with the harem building located at its right side which also provides access to the kitchen. Inside the private section of the garden which is at its eastern side is the high wind catching structure of the garden. This two story building is located upon the main axis of the garden and serves as the reception place for special guests as well as a resting place for the governor. The hexagonal structure has four rooms around the central space with five water basins at its ground floor. The basins distribute the water coming from behind the same building which was discussed earlier. North of this building are service rooms and servant quarters.



Fig .2-235. Central pool of wind tower

At the western side of the complex is the semi private section of the garden which was used to receive guests or travelers. This area consists of four buildings namely: *Behesht-Aeen* building or the winter mansion which is largely located inside the harem as well as the cistern, the mirrors hall, *Tehrani* building and the archway.

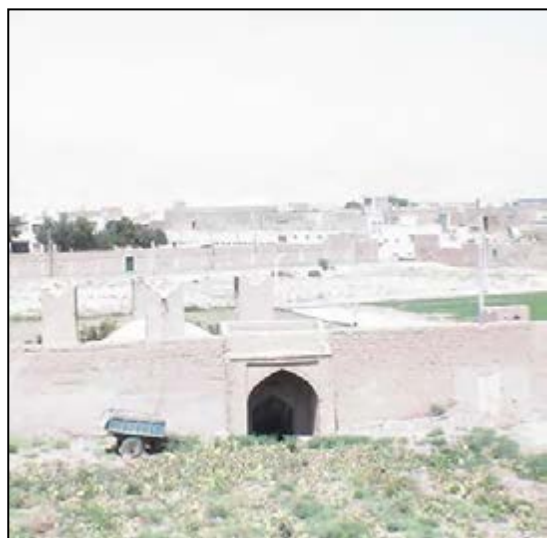


Fig .2-236.Cistern



Fig .2-237.Tehrani and Sabat building

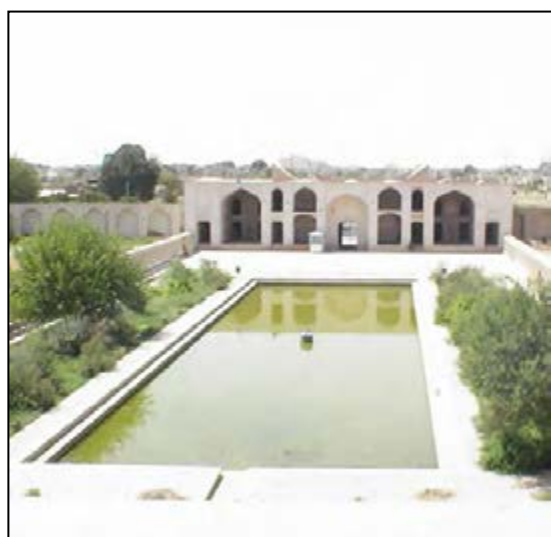


Fig . 2-238. Portal (Sardar) building



Fig . 2-239. Ayeneh khaneh

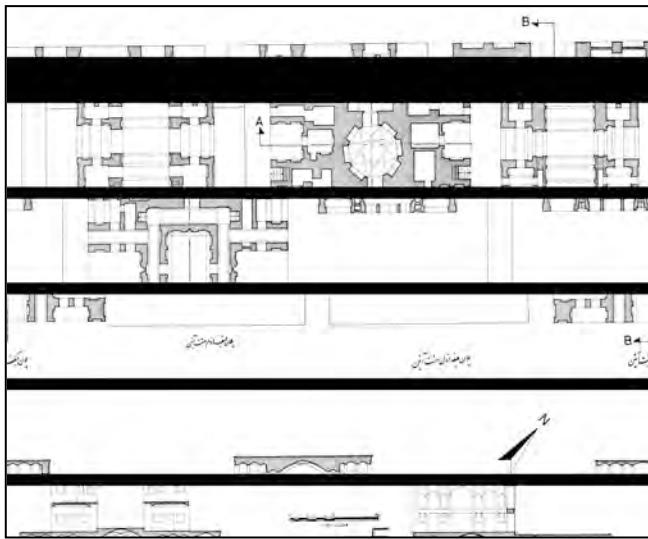


Fig . 2-240. Summer palace (Behesht Aein) plan and



Fig . 2-241. Summer palace (Behesht Aein)

#### **4-Garden typology**

*Bagh-e Dolat Abad* was a complex served both as an fruit garden and a governmental garden. The landscape gardening is a manifestation of builders' culture as well as their approach to the features shaping the garden including the function of the complex as a combination of fruit garden and governmental garden which not only expresses the Persian Garden concepts but also indicates a culture based on contentment and optimal water utilization in the garden.

Considering the presence of several buildings and basins as well as multiple water brooks, stables and servants quarters, the garden served as a resident of the governor of the time who was *Mirza Taqi Khan-e Zand*. The summer and winter mansions gave the *Khan* the opportunity to conduct all his affairs including trades and reception of authorities at these mansions as well as other sections of the garden such as the peasant sector. Therefore, it can be concluded that the garden was also a governmental center due to *Khan's* official position in the government.

This garden can be regarded as a garden-mansion because of its architectural form and spatial configuration

### **5-Some special and outstanding points about *Bagh-e Dolat Abad***

Among prominent characteristics of the garden is the wind catching structure and its technological values. They can be evidently seen in its ventilation system which is based on natural ventilation principles as well as the presence of other features such as the highest wind tower of the world beside several basins and water jets which altogether provide a suitable environment for residency in summer mansion during the hot season. Among other features regarded as a good symbol of technological values of the building is innovations made in the traditional *Gavro* system used in the architecture of *Bagh-e Dolat Abad*.



Fig . 2-242. Badgir of summer palace

## ***Bagh-e-Pahlavanpur – Mehriz***

### **1-Introduction**

Mehriz city has an area of 6717 square kilometers and is located in the south and south west of Yazd province. The county consists of one central district and five rural districts. Construction of Mehriz and its vicinity dates back to pre-Islamic periods. Actually, its founding has been attributed to *Mehrnegar* the daughter of *Anooshiravan*. It has mild desert weather. Due to its natural riches, it has been dubbed the “garden town of Yazd.

According to historical manuscripts and texts, Mehriz construction which has a nucleus called "*Mehrpadin*" has been attributed to *Anooshiravan*'s daughter, *Mehr-Negar*. It is noteworthy that reliefs carved on *Arnan* mountain stones indicate that Mehriz has a history of more than five thousand years. Discovery of ancient monuments with excellent architecture corroborate this claim.

### **2- Name of the garden: *Bagh-e-Pahlavanpur***

*Bagh-e Pahlavanpur* of Mehriz with an approximate area of 25000 square meters is located southeast of Mehriz at *Mazwir Abad* quarter. As a *Qanat* goes through it and due to its moderate weather, it enjoys lush vegetation. Formerly, it was used as the winter residence of the rich or noble men of Mehriz and at present attracts a large number of those living in Mehriz and Yazd for sightseeing purposes<sup>1</sup>.

#### **2-1- Location of Geographical**

**1a. Country (and State Party if different):** IRAN

**1b. State of province or region:** YAZD (Mehriz)

**1c. Name of Property:** *Bagh-e Pahlavanpur*

**1d. Exact location on map and indication of geographical co-ordinates:**

E: 54° 21' 6.59"; N: 31° 54' 12.30"

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<sup>1</sup>-Report of Yazd Cultural Heritage and Tourism Base





Fig. 2-243. Location of Yazd in Iran map



Fig. 2-244. Aerial photo of Bagh-e Pahlavanpur main axis, 2009, Google



Fig. 2-245. View of Bagh-e Pahlavanpur, 2009

### **3- Features existing in the garden**

Features of *Bagh-e Pahlavanpur* are divided into two groups: natural and artificial which together make up the garden body. Artificial features consist of the general geometrical configuration of the garden within which architectural features appear beside natural ones. The former includes summer and winter residences each having internal structures compatible with the relevant functions as well as the requisite spaces. For example, the summertime space includes summer palace, winter residence and dependant spaces. The winter residence consisted of buildings which have now been replaced by new structures compatible with initial architecture. Among natural features of the garden are trees, bushes as well as water, the last one being more vital than the other two.

### 3-1- Natural features

#### 3-1-1- Garden plants

##### Plants

*Bagh-e Pahlavanpur* has rows of various trees which are mostly pines, cedars and fruit trees. Fruit bearing trees of the garden include fig and pomegranate planted inside *Karts* (orchard parts). Plane trees have been planted in two rows along two water brooks. The substitute trees have been replaced gradually by new ones (Refer to the tree position map).



Fig.2-246. Bagh-e Pahlavanpur greens, 2009



Fig.2-247. Bagh-e Pahlavanpur green space, 2009

### 3-1-2- Water

#### Water and Qanat

Water manifests itself in a particular fashion in *Bagh-e Pahlavanpur*. The main route of *Hassan Abad Qanat* enters the south western section of the garden at the winter residence after going through *Anjirak* watermill. Then it fills a small basin behind the summer mansion and after filling its inner basin enters the gutters. One of these gutters is located upon the main axis of the garden and the building. At the end of the main axis of the garden in the eastern side of it, the water enters *Mirza Nasrollah* watermill and after crossing the eastern gate of the garden, irrigates nearby grounds and gardens.<sup>2</sup>



Fig .2-248. Way of Qanat-e Hassan Abad

<sup>2</sup> - Documentation of Yazd Gardens, Cultural Heritage Organization of Yazd Province



Fig .2-249. Mirza Nasrollah water mill



Fig.250. Small pool behind the Summer palace

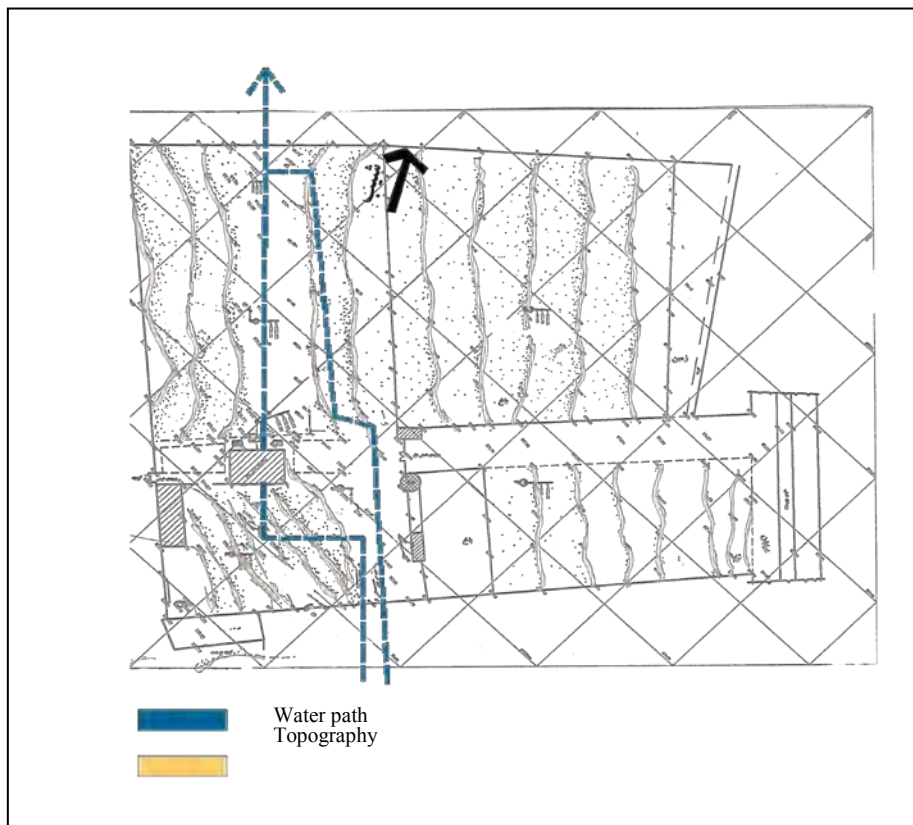


Fig .2-251. Topography and path of water

### 3-2- Architectural features

Spatial configuration of *Bagh-e Pahlavanpur* is made of two parts: the summer residence and the winter residence sections. Due to local fabric and the structure type (palace), volumes are not dense. The palace which is located almost in the middle of the garden has been designed in such a way that it is enclosed by trees. Here, the dominant space is the open space which is mostly occupied by vegetation with a minor section allocated to structures. The winter residence has a function compatible with cold weather. It has less exterior contact surfaces and encounters open space only at two fronts. Therefore, it has been designed following the architectural pattern popular in dry and desert regions. At the structure called caretaker quarters, the spaces have taken their shape according to utilization requirements. As an example, the western section

which had residential functions, more compactness is encountered compared with its opposite space. Another noteworthy point seen in the spatial configuration of *Bagh-e Pahlavanpur* is the composition of garden features along a strong axis which here is from east to west. The same feature is encountered in other Persian Gardens such as: *Bagh-e Dolat Abad*, *Bagh-e Fin* of Kashan, Shiraz gardens, etc...

By positioning the axis along the length of the rectangular shape of the garden, the planner has intensified spatial comprehension of the geometrical form of the garden which is rectangle. As a result, the length of the garden as well as its entirety appears larger and its perspective is perceived deeper.

*Bagh-e Pahlavanpur* is also an architectural sample of changes made in traditional Persian Garden making toward modern landscape gardening. Among interior structures of the garden, mention can be made of the palace (*Sharbat-khaneh*), winter residence, caretakers quarters, bath and cook houses.

The palace (*Sharbat-khaneh*) is regarded as one of the most beautiful buildings of the garden due to its substructures such as the hall, the basin house and *Gooshvareh*. Moreover, *Hassan Abad Qanat* water initially entered the palace and afterwards went through the garden.

Located beside *Sharbat-khaneh* of *Bagh-e Pahlavanpur* are the bath and cook houses, caretakers quarters at the northern front of the garden and the store-room (which has been unearthed in recent excavations).

Altogether, these features form the fine complex called *Bagh-e Pahlavanpur* which can be divided into two parts:

- 1- Master's garden which consists of *Sharbat-khaneh*
- 2- Peasants' garden which includes winter residence and caretakers quarters.

The owner only frequented the palace and bath and cook houses. But the winter residence belongs to the garden subjects who dwell there. The caretakers quarters at the end of the peasant garden is not used for residency but the sheep and cows are kept there. At its opposite front, a carpet weaving and knitting workshop had been set up. Garden entrance structure was made of a watch tower, a stable and a barn. Although the tower was built during the later period of Qajars rule, its decorations are reminiscent of Zands era. Another renowned and beautiful structure of *Bagh-e Pahlavanpur* is the winter residence built during the rule of *Reza Pahlavi* which includes sitting-room, kitchen and the closet.



Fig .2-252. Summer Residence



Fig .2-253. Surrounding Wall Tower.

With a total area of about five hectares, *Bagh-e Pahlavanpur* is situated at the heart of *Mazweer-Abad* gardens and consists of two major parts: standing property and the grounds. From an architectural point of view, its architectural features are divided into seven general and major sections:

- A- The entrance complex and its dependant spaces
- B- *Sharbat-khaneh*
- C- Winter residence
- D- Garden area
- E- Caretakers quarters
- F- Bath and cook houses

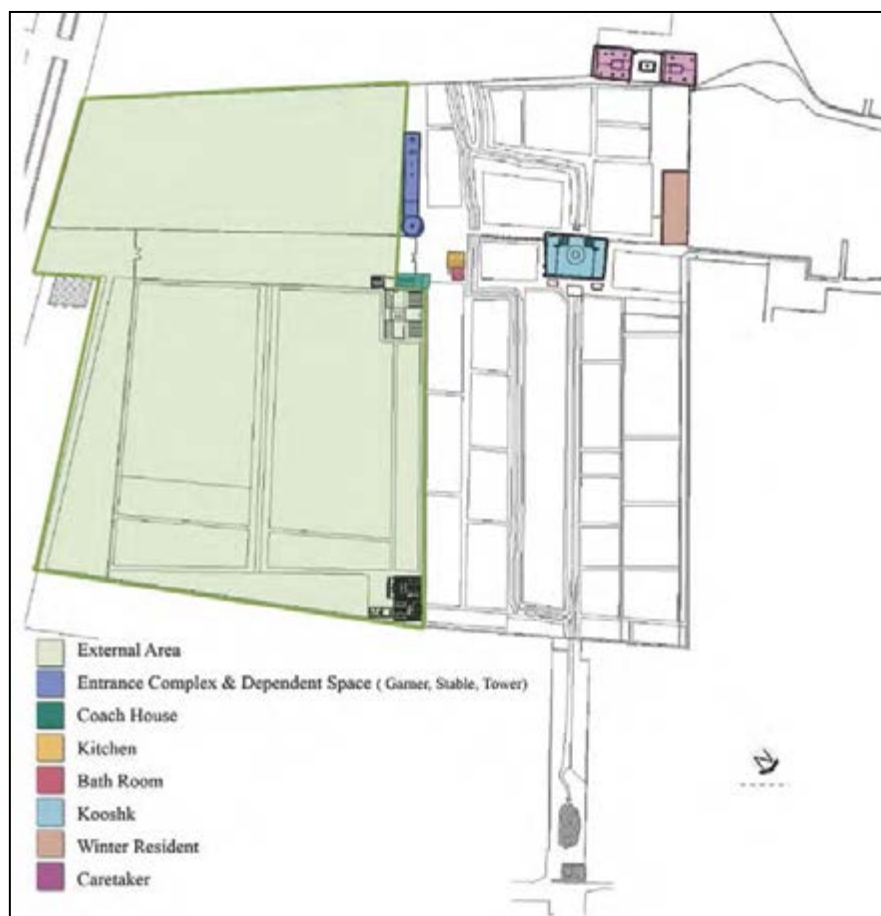


Fig .2-254. Architectural plan of Bagh-e Pahlavanpur

### **Entrance complex (the tower and the stable)**

These two spaces are part of the entrance complex which were used for keeping domesticated animals and consisted of indoors and outdoors. General characteristics of the building consist of a clay wall, cradle vault, *Filpoosh* and the earthen floor. Presence of stakes to fasten



tethers as well as the manger is a strong proof of its function as a place for keeping domesticated animals.

### **Tower structure**

Its plan has been designed with eight sides consisting of the ground floor and the first floor. Initially, it seems that the vestibule under the tower has been allotted to passage but actually it had additional function and served as a waiting room. The space connects to the stable from one side and the garden from the other side. Materials used in the tower are mud and bricks which are laid like adobes. They make up the inside and outside layers of the tower so that the outside layer of the lower part of the tower is made of cob and its inside layer is made of mud bricks. The first level of the tower (first floor) has also been made of bricks. Decorations used in the tower follow the Zands style which is also popular in the majority of fortifications of the time.

Unfortunately, some of these decorations have been damaged in the course of time due to oldness and lack of materials strength.

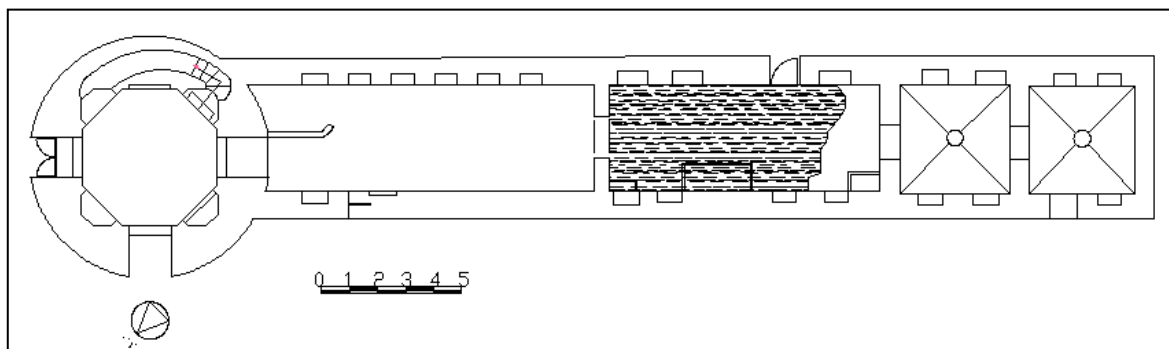


Fig .2-255. The plan of ground floor and stable

The entrance complex with its stable was restored and revitalized according to a design made by the planning advisor. Relevant blueprints will be presented later.



Fig .2-256. Fortification and tower

### **Palace (*Sharbat-khaneh*)**

This structure has been built following the typical pattern used in the architectural style of the Persian Garden which presents a magical view of water motion to every observer. In this architecture, the best use has been made of water motion so that part of the *Hosein Abad Qanat* water passes through the building and after over spilling into the basin opposite the hall continues its way.

The structure is the main building of garden dating back to Qajars era with the architectural style prevalent in that period. Although minor changes such as door replacements and stone decorations have been made but its original identity has been retained. *Sharbat-khaneh* structure has been made in two and a half floors consisting of three sections namely: the ground floor, the basement and the upper chamber or *Gooshvareh*.

The ground floor is made of:

- The hall overlooking the garden
- Basin house or the pavilion structure which was used mostly at summer noon

- Lateral rooms and store rooms located on either side of the hall as well as the basin house which was used in milder weather conditions when a few days of residency were intended. It was built in a manner that the privacy of individuals was strictly respected.
- *Sharbat-khaneh* basement which served mostly as a store room for perishable foodstuff and is beneath some sections of the mansion.
- *Gooshvareh* rooms or the upper chamber which have been built to level the roof of the hall on its either sides. They have been built at half floor of the building and were used as bedrooms at summer nights. Moreover, they were used as a drying place for some garden productions such as pomegranate grains, vegetables, etc... This type of space was also popular in Yazd and Kerman.
- Positioning of the mansion inside the garden arena is in such a way that is almost symmetrical in relation to both garden entrances.
- Passage of *Hosein Abad Qanat* from beneath the mansion has provided a lovely environment
- Materials used in this structure are: bricks, mud bricks, plaster coats and thatch
- The most prominent decoration used in the basin room and all the ceilings is orthodox works. Although color contrast or the juxtaposition of plaster coat and thatch can also be considered as an ornament
- Aside the tower complex and *Sharbat-khaneh* structure, there are two other groups of buildings which are not very old
- Orientation and development of the garden somehow relates to the dominant regional wind too so that the wind can easily circulate inside mansion structure
- Mansion has been surrounded by trees because of its summer time usage and due to its relatively numerous openings, it is suitable for heat exchange.



Fig.2-257. Interior and exterior space of Summer Residence

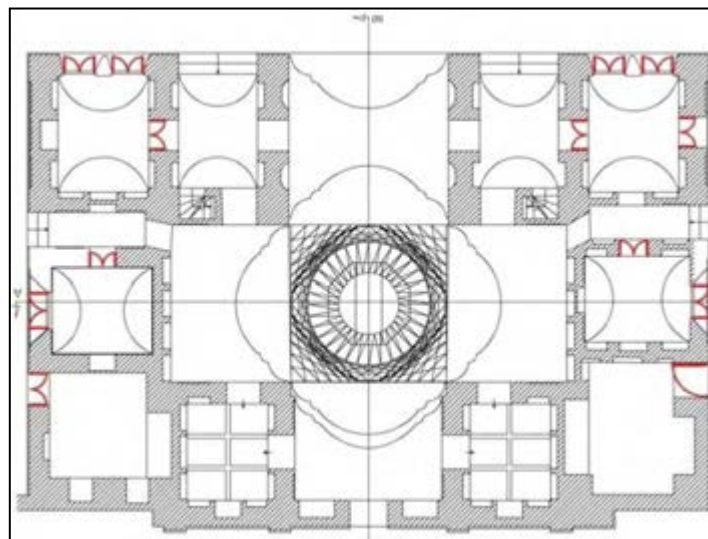


Fig .2-258. Plan of summer residence

**Caretakers quarters**

Caretakers quarters is at the south western end of the garden. Formerly, access to it was made via alleys beside its south western side. The structure dates back to Qajars era and because of its longevity and function change has been converted to a place used for keeping domesticated animals.



Fig.2-259. House of Janitor

Additionally, because not much attention has been paid to its spaces and its constant exposure to rainwater, some parts of it have suffered heavy damages.

Caretaker quarters are located at north western and south eastern fronts of the structure. The fronts were used by inhabitants in summer or winter seasons alternatively. This building has also been restored and revitalized.

**Winter residence**

At the western side of the garden, there is a structure called winter residence which is located at the corner of the garden. Due to the existence of a clay wall between the garden and the winter residence, it was apparently an independently functioning structure. This building which dates

back to Qajars period has remained relatively intact; in particular its outside thatched façade is almost as good as new. Due to its optimal orientation to sunlight, it is regarded as a suitable place

for winter temporary stay. Even columns in direct contact with outside environment are thicker than inner columns especially in the room entered via the *Gholam Gardesh* (passageway).

Within the general restoration plan of the entire garden; this section has also been restored and revitalized to be used for inhabitation purposes.



Fig. 2-260. Winter Residence

Building materials used in the winter residence generally include:

- Adobe inside partition walls
- Gypsum and thatch plasters used as coatings. Moreover, barrel arches were used in room coats.
- Formation and development of these spaces are mostly in an east to west direction but the winter residence has a south western orientation in order to maximize sunlight exposure.
- Orientation and development of the garden somehow also relates to the dominant regional wind. For instance, the winter residence has been constructed with an angle secure from wind currents.

As its name shows, winter residence has been constructed for cold weather stay. Therefore, it has a volume and position suitable for such function. More exposure to sunlight as well as its extra volume contributes to its getting warm and staying warm.

From an architectural perspective, the winter residence is consisted of two sections: anterior and posterior rooms.

Anterior rooms are those exposed directly to sunlight to which access is made in two ways:

A- Rooms that are entered via a porch.

B- Rooms that can be entered directly via a corridor.



Fig .2-261. Historic photo of winter residence



Fig.2-262. New rest houses in Winter Residence

#### **4- Garden typology**

*Bagh-e Pahlavanpur* has been considered as a complex consisted of an fruit garden and a promenade. Moreover, it can be regarded as the blend of traditional garden making and modern landscape gardening. As mentioned earlier, concerning its architectural form and spatial configuration, the garden can be classified as a garden-mansion.

#### **5- Some special and outstanding point about *Bagh-e Pahlavanpur***

*Bagh-e Pahlavanpur* has several prominent features including the following ones:

"It was built at a period in which Iran was distancing itself from its traditional past and entering the modern times. Thus the garden can be considered as one of those built according to the architectural styles of the fourteenth century solar AH as well as the early 20<sup>th</sup> century procedures. Among other noteworthy points is the optimal condition of its trees, in particular plane trees planted near water brooks which provide an attractive and healthy atmosphere. Moreover, there is an interesting link between the water and the mansion i.e. the water brook establishes a special connection with the architectural space by going through the mansion via its inner basin".

Yet another interesting point about *Bagh-e Pahlavanpur* is the connection between the garden and watermills located at the beginning and at the end of *Qanat* path. The link is in such a way that initially *Anjirak* watermill is rotated by the water which after passing through the garden enters *Mirza Nasrollah* watermill. This highlights the link between the garden and other surrounding historical features due to the presence of a common water course. In addition, beside the garden is an inter-gardens alleyway (*Kooch-eBagh*) which is regarded as the side gate of *Bagh-e Pahlavanpur* and at different seasons denotes the contrast between the dry climate of desert and *Bagh-e Pahlavanpur* in Mehriz town.



**Bagh-e Akbariyeh - Birjand**

**1-Introduction**

Birjand City<sup>3</sup> is located in the south of Khorasan province, eastern Iran at a geographical position of 32°, 53' northern latitude and 59°, 13' eastern longitude. It is made of different terrains such as plains and mountains.



Fig . 2-263. Location of Birjand in Iran map (NHBI ,Base)

Rainy season is very short and limited to winter and early spring. Average annual precipitation in deserts is about 50mm which in mountainous areas amounts to 250mm. One regional climatic characteristic is the high temperature difference between days and nights as well as summers and winters. Such large variation of annual temperature as well as the high

<sup>3</sup>Ahmadian, Mohammad (1995); "Geography of Birjand Township with references to its history and culture", Pages:7-50

difference of the absolute maximum and minimum temperatures indicates the dominance of desert climate upon Birjand weather. Maximum annual temperature ever recorded is 44° centigrade and minimum annual temperature recorded is 21.5° centigrade.

Several mountain chains are extended from west to east of this township. The most important of them are *Momen Abad* in the north and north-east of Birjand City and *Bagheran* in its south.<sup>4</sup>

Referring to Climate Atlas of Iran shows that cloudy days in northern Khorasan are 3-4 months each year which drop to only two months in Birjand.<sup>5</sup>

Shortage of clouds in the region not only decreases the possibility of rainfall, but also speeds up evaporation due to direct sunlight. This phenomenon accompanied by high winds such as the north to south summer wind makes the air dry up even more. As a result, the average twenty years relative humidity of Birjand (in the years 1340-59 solar SAH) has been a mere 24% for hours six thirty and twelve thirty. According to the atlas, average relative humidity at noon in the Iranian month of *Tir* drops under 20%. All the previously cited factors contribute to a low precipitation. Therefore, average ten years rainfall in Birjand during the *Iranian* calendar years of 1353-62 SAH has been only 18.6cm. Rainfall starts in mid-autumns and reaches its peak in winters. In addition to a shortage of precipitation as well as the unsuitable time of it for agricultural purposes, it must be noted that sudden, heavy rains result in flooding which increases existing problems. Therefore, much of the rain water is wasted in the form of floods which not only are not beneficial but also lead to heavy losses and soil erosion. Factors influencing precipitation in Birjand are primarily regional morphology, local high winds and proximity to *Salt Desert (Dasht-e-Kavir)*. \*(same reference as the last one)

Other factors disturbing the general condition include seasonal winds blowing in the region, such as hot season currents which have a general north to south direction and are known as the 120 days winds. They decrease air moisture which leads to more dryness. Also sometimes they turn into sandstorms that damage crops. No permanent river is seen in the region due to rain shortage and air aridity. But there are plenty of dry watercourses and floodways which only have water during rainy seasons.

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<sup>4</sup> Birjand Meteorological Center (2008); "Weather of Southern Khorasan Province: Birjand".

<sup>5</sup> The Geographical Institution (2005); "Climatic Atlas of Iran", Tehran University.

The most important part of geological studies in Birjand dates back to the third and fourth geological eras. An outstanding characteristic of the third era is the Green Eocene formations made of tuff layers and volcanic lavas. In addition, in this region traces of the fourth geological era are seen in the form of depositions and torrential cones at mountain slopes, which are considered, as the main feeding sources of underground water layers. Geological investigations in Birjand area show that it has a strong potential for devastating earthquakes.

Regarding morphology and geological relieves, Birjand Township is generally divided into two parts: one is the northern and north-eastern highlands and the other is the relatively flat grounds located west, south and east of Birjand. The flat part has a high altitude with a minimum height of 800-900m above sea-level. Therefore, considering the above mentioned points it can be concluded that Birjand region is not a suitable place for agricultural purposes or natural vegetations. But attempts to overcome these obstacles have led to the creation of unique methodologies. Persian Gardens built in such hostile terrain but at the same time compatible with Iranian architectural methods have followed the tradition prevalent in other desert spots of Iran. This endeavor requires optimal place finding as well as sensible selection of appropriate plant species, their cultivating and keeping and eventually specialized management of plants and water resources. In the course of the time local inhabitants have discovered innovative methods to deal with such features. The most prominent gardens of the area will be discussed in the following.

### **1-1-Regional flora<sup>6</sup>**

A large number of plant species in Birjand gardens are indigenous ones including trees and shrubs. Non-indigenous species compatible with regional climate were added later. Here names of some trees are mentioned:

#### **Birjand pine (*Pinus eldarisa*)**

Birjand pine has a long history of cultivation in the region. Due to the survivability of needle leaf plants in harsh climatic conditions, it is a good candidate for planting. Birjand pine is a

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<sup>6</sup> Shamsheh Advising Engineers (2009); "Restoration and Revitalization Plan of Akbarieh Garden in Birjand", Page: 42.

full foliage tree with a relatively wide canopy. Its height sometimes reaches over 15-20m and its needle-like leaves are seen in groups of two or three inside a common sheath with a length of 10-15cm. Birjand pine is an ever green plant with gradual fall of leaves which takes place throughout the year. Its tree trunk at younger years is grey-colored and relatively smooth. But later it becomes cork-like, dark brown colored with deep grooves which gives it a beautiful appearance. It flowers during spring and produces plenty of yellow colored, large pollens which cause allergic reaction in susceptible individuals. Birjand pine produces conic-shaped fruits which are dense initially but upon maturing get brown and seeds come out of them. Birjand pine is multiplied by cultivating its seeds in a nursery and afterwards transferring the 2-3 years old saplings to the main field. Planting this tree in gardens intends to produce shadow and decoration as well as a fine view to attract individuals and potential travelers.



Fig .2-264. Birjand pine (Kelayeh, 2009)

#### **Jar-like (*Khomrei*) cedar (*Thuja orientalis*)**

In a few Birjand gardens, a limited number of Jar-like Cedars are found which have a beautiful crown and because of their shortness attract the attention of visitors. This small sized tree has many branches with pretty flat leaves. Its leaves have a light green color and are made of small scales which are arranged in four rows alternately. The tree is an ever green plant with leaves that change color from light green to brownish green during different seasons of the year.

Natural habitat of the tree is in mountainous areas and in northern forests of *Iran* but because of its high resistance, it is also widely planted in other parts of the country including Birjand. Due to the rapid growth of its leaves, it must be pruned frequently during which it can be shaped to beautiful forms. It is propagated by seeds which are produced inside the round, green fruits of its branches and turn brown after maturing. The sapling produced from the seeds planted in the nursery are taken out after one or two years and transferred to the main cultivation spot.



Fig . 2-265 . Jar – like Cedar (Kelayeh, 2009)

### **Pistachio (*Pistacia Vera*)**

Pistachio is a productive tree planted abundantly in the garden as a main tree with the following characteristics: Slow tree growth, not so wide crown, resistance against aridity and salinity, economical productivity, etc. Pistachio is a biped tree resistant against the hotness of summers and the coldness of winters. It grows in light, sandy soils and the most appropriate soil for it is Sand loam. Pistachio has a deep root which makes it resistant to aridity and water shortage. It yields fruit at ages six or seven and its crop reach its peak at age 15.

Propagation is by means of seeds but due to a lack of sufficient subsidiary roots, it is usually planted directly at the main spot and it must not be moved at all.



Fig . 2-266 . Pistachio (Kelayeh, 2009)

**Apricot (*Prunus Armeniaca*)**

Apricot is widely planted in Birjand gardens for its fruit to be consumed fresh or dried. Birjand apricots are large sized and elliptical and apparently of grafted *Shahrudi* type. Apricot Tree is small with a height of about 5-7m. Its trunk is coarse and brown colored with smooth branches. Grooves upon the main trunk are shallow.



Fig . 2-267. Apricot (Kelayeh, 2009)

Apricot tree leaves are round or egg-shaped or arrow-like with a heart-shaped base and dented margins. Apricot flowers appear before its leaves in spring and in fact it is one of the first trees which herald the coming of spring because of its beautiful foliage and pink colored blossoms. The birthplace of apricot is the moderate regions of northern hemisphere especially the plateau of Iran. It has a long history of cultivation in Birjand.

### **Pear (*Pyrus Communis*)**

Hot and dry summers of Birjand region which is a pre-requisite for producing high-quality Pears have made it a popular tree in Birjand gardens. The tree lacks a wide crown and has an almost conic shape. Tree trunk skin is gray colored with pointed, elliptical and alternate leaves. The plant has a fall season and fruits of its different grades are produced from spring until autumn. Propagation is by means of seeds or suckers. Pears planted in the garden are of fast fruiting types known as *Emrut* which bear fruits late springs.



Fig .2-268. Pear's tree (Kelayeh, 2009)

### **Mulberry (*Morus Alba*)**

A limited number of this tree is seen scattered at the margins of some gardens. They grow fast and have a wide crown. Additionally, their fruit does not have a high economical value but because it is the first fruit maturing in spring and due to its shadow casting property is a popular tree. Also, its fruit can be easily dried and consumed during winters. Among berries

existing in the garden are: wild berries, date berries and *Mashhadi* berries. *Morus Alba* has a light colored and almost whitish gray trunk with shallow grooves and dense foliage. It has granular and periodical leaves which bear flower and fruit in spring. It has an extensive root and relatively high water consumption. *Morus Alba* is classified as a tree which turns yellow in autumns. Therefore, its autumn leaf falling and its naked trunk and branches in that season create a fantastic view.

#### **Ash tree (*Fraxinus persica*)**

Ash Trees are small sized with a completely spherical and beautiful crown. Their leaves are minuscule and jagged at the margin near their dente tips. They have a high resistance to aridity and make a wide shadow at the spot where they are planted. Because of their big foliage, they can be pruned and shaped easily.

Ash Trees are mostly planted around the central basin of Birjand gardens and walkways at its either sides. In accordance to their plantation position and form of the crown, ash trees not only provide wide shadows but also add to the beauty of the gardens. Their propagation is by planting seeds in sapling beds and transferring them to the main position after 1-3 years. Suckers aged over one year are another way to propagate ash trees in which appropriate suckers must be removed from the main stem and delivered to a middle reservoir and after one or two years should be transferred to the main spot.



Fig .2- 269 . Ash Tree (Kelayeh, 2009)



**Heaven tree (*Acianthus altissima*)**

Heaven Tree is a very resistant tree with a long history in the region. They are limited to margins of side walkways, therefore only a handful of them are found in Birjand garden. It has an origin in China and Japan but has been imported to Iran many years ago. Heaven tree is a fast growing and beautiful tree with wide, green and hybrid leaves which sometimes turn brown or light crimson. It has a white and slightly coarse trunk. Heaven Tree is bicuspid and both its male and female sexes produce flowers. Flowers of female trees turn red after maturing during summer which gives it a beautiful appearance.



Fig .2-270. Heaven Tree (Kelayeh, 2009)

Heaven Trees are resistant to warm and dry conditions and grow sufficiently in weak soils. Roots of this creeping plant are either subterranean or superficial but very dense. It seems that planting heaven trees is intended to produce shadow in a short period of time.

**Fig tree (*Ficus carisa*)**

Fig Trees are short and are particularly planted at the edge of sidewalks and side walkways. Their fruit can be mass produced using suckers. Aside their commercial usages (Production sale, fresh and dry fruit consumption, fig sucker sale...) they are utilized as fences around gardens in order to prevent trespassing.



Fig . 2-271. Fig Tree (Kelayeh, 2009)

Fig tree (Ficus family) has alternate, simple or lobed leaves as well as multiple branches without any main trunk. Its fruit is fleshy, black or yellow colored and shaped like a receptacle. One of its characteristics is its cream colored sap inside its stems which apparently has medical properties. After age two, it produces delicious fruits. Figs are propagated by suckers and slips.

#### **Pomegranate trees (*Punica granatum*)**

Pomegranate is a small-sized tree but can grow to a height of about five meters under optimal conditions. Its leaves are glossy, smooth and egg shaped with a dark green color. It has red flowers which appear in the middle of spring. It flowers profusely but not many of them become fruits. Its young branches are white and fluffy but gradually turn dark and smooth. Pomegranate root penetrates to a depth of 1.5-2m and is very resistant against water shortage. Its propagation yield by suckers as well as its potential for pruning is very high. Normally, its crown is almost rounded like a shrub which can be shaped easily. It can be cultivated as a tree with a main trunk.



Fig . 2-272. Pomegranate tree (Kelayeh, 2009)

Pomegranate Trees in Birjand gardens have double functions. Firstly, their fruits have commercial value and secondly when planted densely, they can serve as a high fence. Therefore, they are planted at the margins of all Birjand gardens. For example at garden centers, they prevent the entrance of people into the production section. They are planted at edges of the interior or exterior sidewalks and near walls for commercial purposes as well as their beauty effect and to prevent trespassing and finally at the margin of gardens sideways they are planted to produce fruits, shadow and beauty.

Birjand gardens produce exclusive pomegranates known as thin-skinned pomegranates which are called *Meykhosh* in Farsi. They are completely different from products of nearby towns such as *Ferdows*. Tiny, black and juicy grains are their unique characteristics.

### **Barberry (*Berberis vulgaris*)**

Barberry is an indigenous plant with a long history of regional plantation. Recently, it has been welcome more than before by farmers. The height of Barberry tree is two meters or more with lots of side branches and plenty of right suckers. Barberry tree trunk is yellow colored with thorny branches. Thorns have been formed because of changes in leaf forms. Barberry leaves are composite with sharp and occasionally crisp and thorn-like teeth. They

are dark green. This plant turns yellow in autumns during which it bears a red fruit with many medical properties.



Fig . 2-273 . Barberry (Kelayeh, 2009)

#### **Geranium (*Plargonium sp.*)**

It is a grassy, semi-wooden and perennial plant which has a decorative function in almost all Persian Gardens. Usually it is used to adorn flower beds, basin edges, stairways and niches. It is sensitive to cold weather and must be transferred indoors during winter but when exposed to a warm place. When in warm open air, it flowers regularly. (From *Farvardin* or mid-March until *Aban* or mid-October) Its fluffy, rounded leaves have dented edges with a specific smell. Different types of this attractive plant bear flowers of various colors such as white, pink and red. They can be small or big, with few or multiple petals.



Fig . 2-274. Geranium (Kelayeh, 2009)

Plant propagation takes place by slips during the month of *Aban*. Rooted slips are transferred into flowerbeds or flowerpots in *Farvardin* after it starts to get warmer. By this time, Geranium beautiful flowers soon appear. Due to its easy propagation and beauty, it is highly demanded in the majority of local gardens. Geranium is resistant to aridity and needs a lot of sunlight in order to grow and flower. Soil suitable for the plant is black soil enriched with minerals. Slips planted in ceramic pots are used to adorn niches, basin edges, stairways and its landings. Sunlit spots are preferred for better Geranium growth.

### **Zinnia (*Zinnia sp.*)**

Zinnia is one of the biannual plants with a long history in Iran. Its flowers are multi-colored. Formerly, Zinnias planted in Persian Gardens had few petals but now they are of multi petal type. Zinnia has big and pretty flowers with heart shaped, fluffy and sharp pointed leaves. It is relatively resistant to warm weather and is classified as a tall and decorative flower which is propagated by seeds. It is possible to plant seeds inside the nursery and then transfer the seedling to open air when it has 4-6 leaves. In some gardens planting is performed directly at the original position (because of warm weather during the transfer). Zinnia needs enriched soil and a sunlit place for growth.



Fig . 2-275. Zinnia (Kelayeh, 2009)

**Petunia (*Petunia hybrida*)**

Known also as the Persian Petunia, the plant has funnel-shaped flowers with a few petals. The color of its flowers is white, red and purple with a mild and specific fragrance which can be smelled especially at night. Due to being slender, its stems are of mostly of a creeping type with a floral bush of less than 40-50cm surface of flowerbed. Petunia leaves are fleshy, fluffy, pointed and with a peculiar fragrance. Propagation is via planting its tiny seeds in the nursery and carrying the seedlings to the main field in mid-spring. Compared to other flowers planted outdoor, petunia is the best because of its: greenness, beauty, flower abundance, flowering duration (from early summer until late autumn), variety of colors and its pleasant, mild odor.



Fig . 2-276 . Petunia (Kelayeh, 2009)

**Persian violet (*Viola odorata*)**

Apparently, violet has a long history in Persian Gardens but has been neglected recently. Flowers of this pretty flower appear in dark and light purple, yellow, white and blue colors, all very fragrant and enduring. Today, only pansies (*Viola Tricolor*) are planted in Birjand gardens. Pansy is a short plant with a maximum height of 20 cm and large multi-colored flowers which usually are not fragrant. This flower is partially resistant to coldness. For this reason, it is planted in flowerbeds of the garden during autumn and in *Esfand* flowers abundantly and gives a beautiful appearance to the garden. Pansy needs enriched soil and

much sunshine. It is propagated by seeds in nurseries. Seedlings are transferred to the main field after producing 5-7 leaves.

In this section, One of the important garden of Birjand is introduced which reveal the continuance of skills and experiments of local residents in the course of time.



Fig .2-277. Persian violet (Kelayeh, 2009)

## **2- Name of the garden: *Bagh-e Akbariyeh***

*Bagh-e Akbariyeh*<sup>7</sup> Complex was build in about 1200 LAH at a distance of five kilometers from the main nucleus of Birjand City and its historical context by a local ruler of *Qahestan* called *Heshmat-ol dowleh*.

At that time gardens such as *Zereshki* had already been built inside the historical nucleus of the town and this fact shows that *Bagh-e Akbariyeh* was used for resting purposes.

Initially, *Bagh-e Akbariyeh* Complex comprised a main building, a stable and an area full of trees (in line with the axis of the main building) but later complementary spaces were added to it by the heirs of its original owner. The complex is located at 32 degrees, 53 minutes northern latitude and 59 degrees, 13 minutes eastern longitude in relation to the original meridian.

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<sup>7</sup> Rezai, Jamal (2002); "Birjand-nameh".

## 2-1- Location of Geographical

1a. Country (and State Party if different): IRAN

1b. State of province or region: BIRJAND (South Khorasan Province)

1c. Name of Property: *Bagh-e Akbariyeh*

1d. Exact location on map and indication of geographical co-ordinates:

E: 59° 13' 40"; N: 32° 51' 10"



Fig . 2-278. the site plan of Bagh-e Akbariyeh, 2009, Google Earth

Due to its original function, *Bagh-e Akbariyeh* enjoys a more elaborate and specific architecture compared with other gardens of the region. Therefore, aside its matchless plant variety, its building architecture has added to its significance.



### **3- Features existing in the garden**

#### **3-1- Natural features**

##### **3-1-1- Garden plants<sup>8</sup>**

*Bagh-e Akbariyeh* enjoys a wide variety of plant species which shows that initial owners of the garden apparently used their social status and influence to collect and cultivate different types of plants capable of growing in this climate. Occasionally, various trees or even seasonal flowers seen in this garden cannot be found elsewhere in the region.

A large proportion of plant species of the garden are indigenous plants which have played a key role in its initial formation and in fact have generated the nucleus of its plantation design. Exotic plants compatible with local climate were added to the collection of indigenous plants later. This process not only has helped to maintain the original plant species which belong to this region but also has contributed to generating a gradual variation. Plants of the garden can be divided into three categories:

#### **Trees:**

1- Birjand Pine 2- Jar-like Cedar 3-Sarvenaz 4- Pistachio 5- Greengage 6- Pear 7- Apricot 8- Ash Tree 9- Juniper Tree 10- Mulberry 11- *Shaftalu* (a variation of peach)

#### **Shrubs:**

1- Rose 2-Damascus Rose 3-Orange Box Tree 4-Theron 5-Barberry 6-Black Fig 7- Yellow fig 8-Judas tree 9-Miniature rose 11-Eglantine 12-Pomegarante

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<sup>8</sup> Shamsch Advising Engineers (2009); "Restoration and Revitalization Plan of Bāgh-e Akbariyeh in Birjand", Page: 42



Fig . 2-279 .Shrubs

**Bushes and seasonal flowers:**

1-Geranium 2-Humble plant 3-French marigold 4-Zinnia 5-Violet 6- Decorative Cockscomb Flower (amaranth) 7-Bachelor's button 8-Petunia 9-Abri



Fig .2- 280.Bushes and seasonal flowers

Tree layout in the garden and their composition is in such a way that pine tree row is located upon the longitudinal axis of the garden in a north to south direction. At the interval between

these two rows of pine trees and on either sides of the walkway pivot, short box trees have been planted which somehow serve to visually balance the plant wall of the main axis.

On either sides of this longitudinal axis, there are six symmetrical *karts* of which four *Karts* are located behind the axes perpendicular to the middle basin south of the garden. Two of them are located near the northern side. The western kart has been divided into three parts which of course can only be distinguished by the variation of plant types in this boundary.

Two *Karts* at the forefront and opposite the main building are allocated to planting pistachio trees (on the western side) and plum trees (on the eastern side). The following two *Karts* are allocated to planting apricot at the eastern side and pistachio at the western side. The terminal karts are reserved for apricots and pistachios. Mulberry Trees of the complex have been planted sporadically next to the eastern wall. There are also a few barberry bushes next to the end wall of the northern side. Other trees have been planted in a limited and sporadic fashion all over the complex but orienting toward its margins.

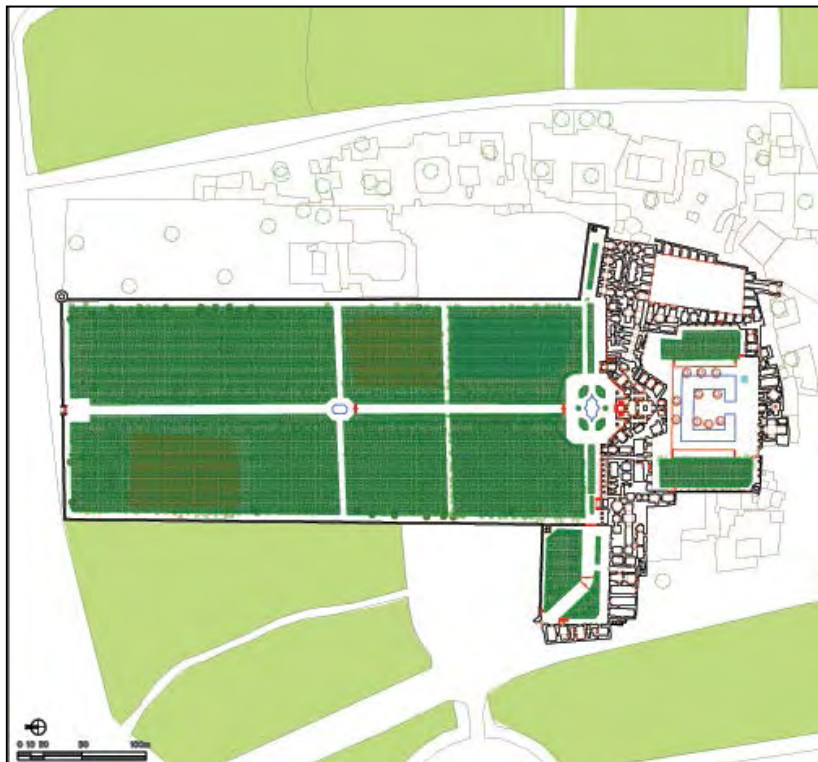


Fig . 2-281. The location of trees in Bagh-e Akbariyeh

### 3-1-2- Water

The water allocated to *Bagh-e Akbariyeh* is supplied from a *Qanat* with the same name. It equaled two shares or two days of water, mostly used for irrigation purposes but was only sufficient for seven days of consumption. Some water was stored in the basin at the back of the building. Basin water was used for two reasons: firstly to produce a more lovely and freshening environment particularly when it was full and secondly, to use the stored water for irrigation of vegetables or summer crops which were occasionally cultivated during spring and summer seasons between tree rows of the garden.

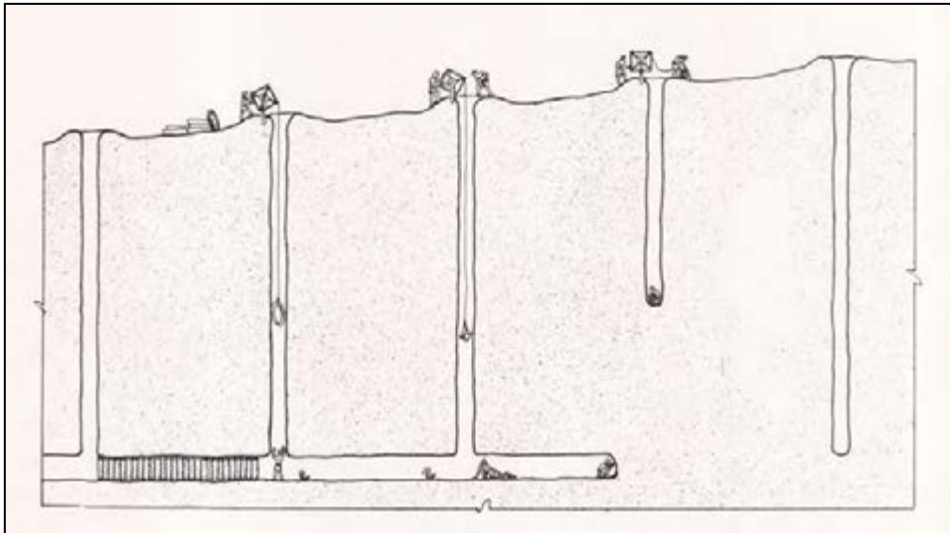


Fig . 2-282. Qanat, the accessibility meted to water

During those years in which *Qanat* has sufficient water and there is a balance between the water consumed and supplied, no problems are encountered in water supply. But *Akbariyeh Qanat* has a history of severe water shortage in dry seasons and it seems that planting pistachio trees can serve as a good model and the dominant pattern for this garden due to its high resistance to aridity. For this reason, irrigation cycle of pistachio trees during dry seasons could increase two or three folds without hindering the growth system of trees and plants in the garden.

For better usage of water, at the margins of the main water delivery routes of the garden (main streams) fructiferous and non fructiferous trees have been planted in a condense manner which not only adds to the garden beauty but also results in producing crops such as

Damascus rose, black fig and pomegranate. The depth and width of streams directing water to the foot of trees are in proportion with the water requirements of trees and soil type so that at each phase of irrigation, the specific volume of water needed by trees has been supplied until the next round of irrigation.

In order to overcome the relatively steep slope of the ground during water delivery to the garden as well as to prevent soil being washed off or eroded, ceramic pieces called *Nahr-tab* have been used for this purpose. In this way, by laying *Nahr-tabs* at intervals of a few meters, level lines have been generated for water delivery which because of their suitable gradient make water motion easier and at a sufficient speed. Additionally, *Nahr-tabs* provide for better water infiltration in irrigation lots.

Due to the specific regional climate as well as lack of appropriate technology and knowledge in the past, the irrigation method used has been water drowning in which *Qanat* water was directed into garden and entered streams at the foot of trees to fulfill their requirements. One of the reasons for this method of irrigation was soil salinity.

Water from *Akbariyeh* well and *Qanat* was supplied in this way: firstly, water arrived into the garden from its southern side and filled the large basin of the central yard of the garden via an underground route. The basin and the yard have been designed to serve as an exclusive *Miansara*, respecting privacy codes. From the eastern and western corners of *Miansara* basin, two canals branch out which after running under the main building, reach the tree planting section. Here, the water comes out of the underground into the open surface.



Fig .2-283. The central basin in Miansara and the dividing water to trees

At this spot, each branch is bifurcated and one of them flows as the main waterway along the longitudinal axis of the garden. Due to the symmetry of this section, water flows in two parallel routes at either sides of the tree planting lot. Several subsidiary canals branch off along the way into the intervals of *Karts* and are extended as far as the parallel axis located at either sides of the end line of the tree planting lot.



Fig . 2-284. The central basin – front of the Ceremonial building

In fact it can be said that given the two main branches (the middle axis) as well as the double subsidiary branches of the far end of the tree planting lot, there exist four parallel branches which are inter-connected by side canals. Field slope and spatial arrangements dictate water motion.

It is noteworthy that planners have designed a mixture of surface running brooks and subterranean routes as required. Whenever the need to prevent wasting the water as a result of evaporation was felt, water courses were taken underground but at times that the visual appearance and noise of water have been given priority; it has been transferred to the surface. Actually, a balance between water consumption and visual pleasure has been established.

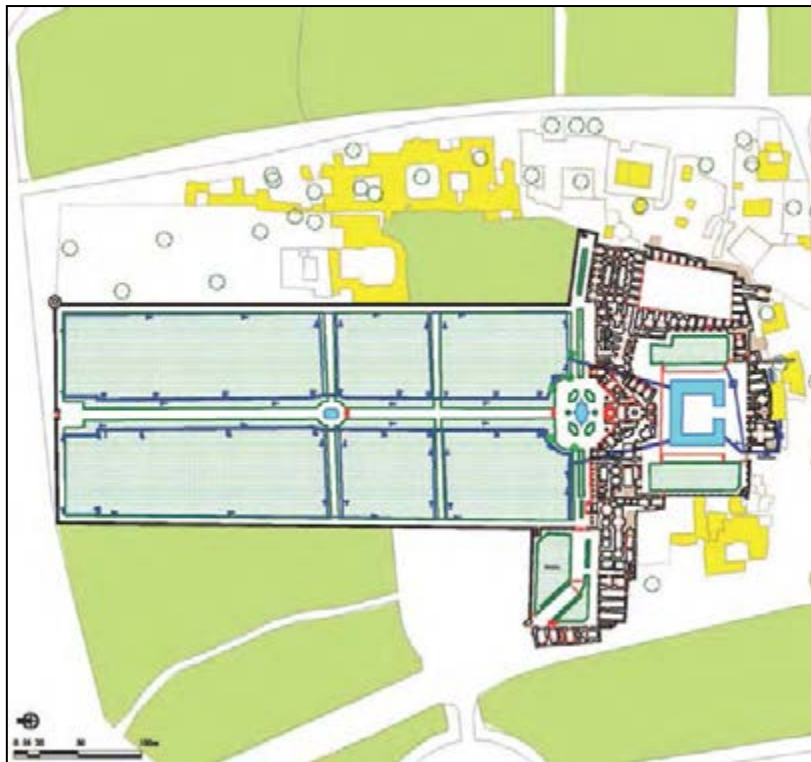


Fig .2-285. The course of circulation of water in Bagh-e Akbariyeh

### 3-2- Architectural features

*Bagh-e Akbariyeh* has two entrances of which the one nearer to the square is regarded as its main gate because of providing fast access to the main walkway as well as easy car usage.

According to old documents, the initial frontispiece of *Bagh-e Akbariyeh* was approximately at the middle of its southern side, along the main north to south axis of the garden. At present, the frontispiece which has been reorganized based on typological studies about frontispieces of Persian Gardens. It has twice the height of garden walls and harmoniously proportioned. Additionally, its white coating makes it distinct from the mud brick wall of the garden.

According to air photos taken in 1330s SAH, the main frontispiece of *Bagh-e Akbariyeh* probably had an entrance vestibule and a frontage (forecourt) but it is hard to define its exact details.

The southwestern frontispiece of the complex has been constructed during the more recent phases of garden development based on the association between *Bagh-e Akbariyeh* Complex

and *Baharestan* citadel. Despite not being in an axial alignment with the main pivot of the garden passing through the pavilion, but is an important structure because of its nearness to the pavilion and other vital service spaces of the garden. Also to reach the pavilion, the yard in which service spaces are located must be crossed. This yard is positioned vertically in relation with the longitudinal axis of complex of Pavilion and its annexed spaces; as a result it has a beautiful perspective of these structures as well as the area located in front of the pavilion.



Fig . 2-286. View from new entrance towards garden path

The western entrance portal has larger dimensions than the northern entrance portal of the garden and from both exterior and interior views has an entrance portico (or entrance porch). It also has a plaster of white gypsum just like the main frontispiece of the garden, but because of its deeper recess above the frontispiece enjoys excellent orthodox ornaments.

Considering the geometrical arrangement of *Karts* and the superposition of the entrance axis and the symmetrical pivot of the pavilion and the entrance frontispiece, it is concluded that *Bagh-e Akbariyeh* has a pure and regular geometry. Therefore, it can be regarded as a showpiece of Persian Gardens.

Gradually, because of functional requirements and needs of the garden in various periods of its development; several structures have been added to the central pavilion. These structures have been formed in an organic manner between the southern garden and the main garden.



During later developments, these principles have been taken into consideration: efficiency, hierarchical phases, viewing quality, landscape, defining walkways that have a very fine perspective view of the garden and its buildings as well as paying due attention to open spaces geometry. Moreover, wide porticos and terraces of the building present the observer the opportunity to walk around and to keep a simultaneous dominant view of the entire garden. This feature has increased its quality richness and the visual pleasure a sightseer gains in the complex.



Fig . 2-287. view from pavilion towards garden

The garden area is rectangular with a length of 217m, a width of 90m and a north to south direction. Most of its structures are located in its south. Its western side is shorter than its eastern side which makes the garden appear generally as a trapezoid in its plan. Like most Persian Gardens, the main axis of it is aligned with the longitude symmetrical pivot which is highlighted by two rows of old and tall pines as well as box-trees.

Midway through the main axis of the garden, at the end of this path and opposite the main pavilion, there exist water basins which not only highlight garden reflection in the water but also emphasize the key role of water in the formation of *Bagh-e Akbariyeh*.



Fig . 2-288. view of the garden axis

The recess form of the main building façade denotes a special welcoming atmosphere accompanied by the glory of the building in its coordination of the skyline and the main portico. With an area of about two hectares, the garden is encircled by earthen walls from three sides. Main architectural spaces can be divided into the main structure, service area and the stable.



Fig . 2-289 . View of the main pavilion

After entering the main gate, a *Miansara* (middle house) with an area of 1200 square meters is seen. In the southern side of this space a structure made of twelve rooms and a connecting corridor fulfills service functions. Access to the main building is possible via a passageway. After this structure, the main Pavilion is seen together with its various, magnificent spaces. Behind it another section of the garden is seen which is smaller than the main garden whose access is provided by corridors. Here, garden landscaping upon the main axis of the garden expands with features such as tall trees and fountains.



Fig . 2-290 . Part of behind the Miansara

Central section is located behind the portico of the mirror hall which is a wide space with an area of 22 square meters. Due to the large scale mirror works, it is called the mirror hall. The space has six doors of which the ones on the southern and northern sides have kept their ornamental function so that coming and going takes place via western and eastern doors.



Fig . 2-291. The interior part of mirror worked room

The central vestibule at the western side of the hall has a ceremonial function and not only shows symmetry of inner features and components, but also enjoys unique decorations. Several niches and vaults are seen in all rooms in a symmetrical fashion and proportional to the room volume. At the center of the ground floor, there exists a room with an area of 20 square meters which based on advisory studies had a ceremonial function.

The building known as the judicial structure (*Divan-khaneh*) is without any decorations and stands on the western side next to the central building. At the central section of this space which is located in the middle of the corridor, there exists the dome of the pavilion which with its six skylight openings (*Bazsho*) and brief orthodox works draws any visitor's attention.



Fig . 2-292 .The ornamented ceiling of the mirror room

Constructions behind the central building occupy an area equaling approximately three thousand square meters. The horseshoe-shaped pool with its surrounding pine and mulberry trees stands in *Miansara* of this section. Overall, the uniformly repeated zigzag arches in side walls have created a special space both regarding landscape and function.



Fig .2-293 . Constructions behind the central building

Structures built at the most eastern far end of the complex are considered as its oldest part and are consisted of two main sections: the first section which is adjacent to the central structure has seventeen interconnected rooms, all used as storing places. Given the old age of this section, it can be guessed that formerly it served as a living quarter. The second section which is separated from the first by a precinct comprises a central corridor with an eastern-western axis which on its either sides, there exist rooms and halls in a symmetrical fashion. Previously when the garden was in use, it served as the residence of the governor but after the westward expansion of the complex and subsequent construction of the central building it lost its initial function and became a repository.



Fig . 2-294. Oldest part of complex

Simultaneously with the central building, the stable was constructed southeast of it with an approximate area of 850 square meters. This section has two separate entrances, one located inside the main complex and the other in a northwestern direction inside the residential fabric next to the central building.



Fig . 2-295. Internal view of Stable

Access to the complex is feasible via a roofed corridor reaching as far as the northern front of the stable. Entrance from the opposite side is possible through a door, the vestibule and the corridor after them. Twenty four rooms surround *Miansara* which was formerly used as an animal pen. Generally, expansion of *Akbariyeh* structures follows an east to west direction. So that its first building was constructed on its eastern side next to the main walkway of the garden and other structures were built beside it following a specific pattern according to existing requirements. Although *Bagh-e Akbariyeh* and its dependant structures were not built at once in a certain period of time but due to their comparable architecture and craftsmanship they can generally be considered as a complete complex.



Fig . 2-296. the extension form of complex from east to west

The structure called the ceremonial building has a particularly interesting façade compared to other structures. This two floored building has an entrance space consisted of two symmetrical stairways at its left and right sides. The access route is roofed. Stairways are connected to two doors at their end creating the entrance to the interior section of the building.



Fig . 2-297. Ceremonial building

Gate doors are vaulted with ceilings formed as a *Jenaqi* arch. Gypsum *Muqarnas* has been used as their decorations. These two stairways provide the indirect access route to the ceremonial building. At the entrance to *Andarooni* (private space), there exist two vestibules which are characterized by a domed roof. In the decoration of the ceiling, radial orthodox work has been used. A corridor branches off the vestibules providing access to its adjacent rooms. Corridors are linked together at their end to form a low roofed passageway. One major section with an entrance into the eastern corridor is the Mirror Hall or dais (alcove or *Shah-Neshin* in Farsi). Features used in the decoration of the Mirror Hall are a special kind of mirror work in gypsum *Muqarnas* formats as well as a limited number of European paintings installed inside the walls body and under the glasses. In addition, the room ceiling has been covered with square shaped Mirrors which complete its ornamentations.



Fig . 2-298. The ornamented roof in Mirror Hall

Next to the Mirrors Hall, there exists a room roofed with a fine *Kolah Farangi* dome which is encircled by skylights. At the four corners of the room four *Muqarnas* arches are seen with honeycombed ornamentations in ceilings. At the end of the eastern corridor, there is a room with gypsum decorations and several niches.

The ceremonial building has WC inside *Andarooni*. Small storerooms also constitute part of the building.



One of the most significant sections of the floor is its alcove with numerous stuccos depicting floral patterns. The most important features utilized in it are its double gypsum columns erected on the roof of the existing arch, connected to alcove floor. The exterior façade consists of an all-around fore-portico with two columns which is regarded as Turkish style architecture. Immigration of *Turkish Moslems* from *Russia* introduced this style to *Iran*. Columns used in the fore-portico are rounded and have been constructed using bricks. Basket-handle and semi-circled arches have granted the fore-portico more beauty. Parallels of the structure are found in *Bagh-e Narenjestan* of Shiraz, *Sadiq Homayun* building of Tabriz, *Bagh-e Eram* of Shiraz as well as *Almasieh* frontispiece.

The subsidiary structure of the ceremonial building is located in the middle front of the garden. It is consisted of a two floored structure in which access to the upper floor is possible by two inter-connecting stairways. The architectural form of the building indicates that it has been built a few years after the ceremonial building.



Fig . 2-299.Connecting stairways in subsidiary structure

The gallery section includes a long corridor with rooms on its either sides. At the end of the corridor is the WC. At one of its terminal rooms, the access route to the lower floor has been provided by stairways. At the middle of the gallery roof, a pavilion is seen and at its other spots a cover of dome and cloister (ribbed or groined) vault has been used. The reception room is a separate room of the first floor designed as a wide space with an entrance.

Beside the entrance space of the reception room, there exists a corridor leading to a vestibule in which it is divided into two branches: the first one goes into the cook house and the second one goes into the fore-portico at the back of the building. The latter section has simple rooms equipped with chimneys. The exterior space of this area comprises the pool arena which has a gate opening into *Akbariyeh* village. It has a peculiar form in which a few vaults have been used around the body of its walls. Also this precinct had bath- and cook houses, traces of which still remain. A relatively large pool is seen in the middle of the arena which adds to the beauty of the site. The ground floor of the building has *Cheshmeh-Taqs* in its façade as well as special booths.

#### **Coach House of the garden**

This section served as the stopping point for coaches arriving into the garden in order to meet the governor. It has a central area surrounded by booths in which ribbed vault method has been used and their doorways have been covered by *Taq- Dozd*. Gradually, some of the booths have been annexed to the last building of the garden. The entrance to *Bagh-e Akbariyeh* includes a frontispiece with a ceiling decorated by *Muqarnas*. It has been shaped like a pointed arch.

At the far eastern end of the main building, there exist several spaces comprising of ammunition and weapons store room but mostly served as a detention center. Opposite the main building, a wide area of about 3200 square meters was allocated to the pool and some other spaces. At the southern side of the area, there exists an entrance to *Akbariyeh* village as well as a private bath room, a cook house and a public bath house with its characteristic features. At the eastern side of the area, there were cubicles called *Hojreh* and three rooms allotted to children education. At the western side of the area are seen multiple, uniform *Hojrehs* and arches. At the middle of this area, there is a central pool encircled by flowerbeds. At the southeastern corner of the complex a mosque has been erected which has a simple architecture consisting of four quadrilateral columns bearing the weight of the overlying dome with the help of Leaf arches.

Another important section of the complex is its large garden with an area of about two hectares. It has a long walkway with a northern-southern axis exactly in front of the central

building. Between the main building and the garden, two basins have been constructed: one opposite the building and the other at the middle of the garden.

#### **4- Garden Typology**

Formerly, *Bagh-e Akbariyeh* was intended for excursion purposes and was designed to welcome learned men and scholars but given its architectural form and utilization manner, it is classified as a garden-pavilion.

#### **5- Some special and outstanding point about *Bagh-e Akbariyeh***

- 1- Regarding *Akbariyeh* building and garden from a specific point of view, it must be noted that frequent trips of its wealthy owners abroad made it possible for them to study exotic species of flowers, fruit bearing trees,...for the very first time. Actually, some of these plants adapted themselves to regional climate and continued to survive but some of them could not tolerate local weather conditions and died out.
- 2- Planting pine tree rows as the main axis of the garden was an innovation that had its own kind of problems which were solved by proper designing. As mentioned before, cedar as an evergreen tree and the symbol of life in Iran traditionally formed the longitudinal axis of Persian Gardens. Cedar denotes vitality and freshness with a foliage beginning just above the ground surface. For this reason, the axes generated not only provide privacy but also produce a suitable visual balance. Unlike cedars, pine trees show a lot of bare trunk between the ground and their first lower leaves resulting in an unpleasant visage. Here, the problem has been largely resolved by planting box trees at the foot of these trees.

## 2.b. History and Development

### 2.b.1. Development of Persian Gardens through the course of history

A Garden was usually attached to any given Iranian property, and all houses encompassed a small garden<sup>1</sup>. As inferred from the writings of a Greek author, Iranian houses were surrounded by gardens 3000 years ago, to refer to which the term "*Pardis*" was used.

Iranians have always shown great interest in building gardens and flower-beds around their houses, which is thought to be rooted in the memories of the original homeland of the *Arians*, who once used to make flowerbeds around the buildings.

All governors of the cities within the land of Iran, or other cities of the empire of Persia outside the boundaries of the mainland were obliged to set up such gardens, as an example of which is the *Pardis* in the *Persepolis* referred to by *Xerxes* as he has mentioned the structures he has built.

#### **From the dawn of Achaemenids civilization:**

To the early man, the whole natural world is a bundle of codes and meanings. The Gods are always present. In the area where the existence of mankind depends on agriculture and the power from trees and waters, the Mesopotamian theory of the eternal, ever-green *Paradise* has kept living since thousands of years before the reign of the Achaemenids. Parts of the oldest scripts found (*Sumerian* scripts of 2800 years BC) read a part of a poem, which attributes the creation of such a *Paradise* to the orders of the God of waters, and acts of the God of Sun<sup>2</sup>.

Arians were not *Semite*; rather, they were Indo-Iranians who brought with them their Gods while traveling to the new lands. Their legends and early historical memory were the sources of their mythology. By the time of the Achaemenids, the most significant of these Gods had

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<sup>1</sup> Talebian, M. H (2004); "The Persian Garden and Pasargadae", Page: 1.

<sup>2</sup> Designs on the tiles found in *Susa*, dating back to 23 centuries BC, include water ponds and groves of trees; however, there is no trace of geometrical divisions of the garden to four areas, or of watercourses. In other words, the patterns are merely representation of the importance of water and plants in the lives of people at the time. (Diba, 1996)

joined forces to form up a trilogy of Gods: *Ahura Mazda* with all creatures and fire, *Mithra* (Goddess of lights), and *Anahita* (Goddess of waters and the source of life). To other Goddesses embrace these major Gods, and are the guardians of gardens. As *Geo Widengren* writes, "originally, *Emertat* ruled the plants, while the other Goddess, *Herutat*, was the God of health and immortality. The pair completed each other, and was the origin of life for seeds." Altogether, wise man has never failed to worship the Gods of where he chose to live. (*Cyrus the Great*, who is believed to have been a worshipper of *Ahura Mazda*, tended to worship the Gods the temples in Babylon which he had conquered in the year 539 B.C.) Certain natural entities were holy to the eyes of people at the ancient times: the Sun in the skies, which was the source of Heat and Light, and the Moon and its cycles.

On the Earth, there was "the tree of the world" known as "the tree of eternal life" (which is the origin of all plants), "the tree of knowledge", or "the axis of the world", the one on which the whole world revolves. Also, in so many cultures, there were similar concepts of the mountain of the world: the mountain was a *Paradise*, center of creation, which pointed to skies from the earth. (The two mountains located in Mesopotamia and India are examples of such an image). Water is the most sacred element on earth as it is the basic element and the origin of all beings. It sometimes forms an ocean to rotate around the world, and in yet other instances, appears as two intersecting rivers, or four rivers flowing from the center of *Paradise* to divide the World into four areas. They are known as the rivers of Life, which are described both in Vedas of Hinduism, and in the Old Testament. Images of them are also detectable on several containers and dishes of the ancient time.<sup>3</sup>

One of the oldest patterns found which depicts the concept of the Persian Garden is on an Earthen Bowl discovered in *Samaria* by Professor *Hertzfeld*, and is believed to date back to 2000 years BC. There are pictures of intersecting rivers forming four gardens, each with one Bird and one Tree<sup>4</sup>. This pattern is one of the many types of older allegoric patterns in the cultures of ancient Asia, which is given the name Sun Disk by *Hertzfeld*. On some other Earthen Bowls is found the picture of some ponds surrounded by trees; yet some others show the world divided into four parts with a Pond in the center.<sup>5</sup>

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<sup>3</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Pages: 32-34.

<sup>4</sup> Ansari, Mojtaba (2000); "The Values of Persian Garden".

<sup>5</sup> Wilber, Donald (1969); " Persian Gardens and Garden Pavilions ".

It is obviously known that ancient rulers must have been of divine origin. Such divinity was represented by water and agriculture in Mesopotamia. For instance, *Sargon II*, who rules in the third millennium BC, is told to have been taken, like Moses, from a waterborne basket, or, in other words, was born from water, and named himself as "The Gardener of The Folks", and the beloved of the Goddess Ishtar. In another example, in the legend of *Gilgamesh*, he traveled deep under the Sea to explore "The Secret to the Eternal Life"; he, too, like other Mesopotamian kings, "Planted Orchids and Gardens". (Historical Folk memories and legends tell the story of one Garden the Iranian king, *Jamshid*<sup>6</sup>, built following God's order, so as to keep his nation from the extreme winter cold.)



Fig . 2-300. A belvedere by the lake/ relief dating back to the reign of Assyrian ruler, Sargon II, Source: Stronach, 1999

<sup>6</sup> There is a great extent of similarity in the Iranian mythology between King *Jamshid* and *Solomon (Soleyman)*. What marked the reign of *Jamshid* was Peace, Light, and Good Fortune, which is all that found in an Iranian Garden. *Jamshid* was the king of *Paradise* and the Land of the Holy. *Nowrouz*, the first day of spring, was also established by *Jamshid*.



Fig. 2-301. A feast under the arbor this engraving is a fraction of one large inscription from the palace of Nineveh, which shows the Assyrian king, Ashurbanipal, celebrating his victory in a feast in his garden in which grow vine, palm, pine, and pomegranate trees.  
Source: *The Persian Garden: echoes of paradise*.

Thus, the divine kings built gardens of kingly scales, of which the Hanging Gardens of Babylon are an example <sup>7</sup>. Elsewhere in *Ibn Balkhi's Farsnameh*, written between the years 500 to 510 A H, pre-Islamic dynasties in Iran are listed as the *Pishdadi Dynasty*, the Kayanids, the Seleucids, and the Parthians. The author of this book introduces *Manuchehr*, the son of *Mishkhoryar* as the first one ever to build in the Garden in the World<sup>8</sup>:

"of his works is that he was the first one ever to build a Garden, and he collected all kinds of herbs and plants from the plains and the mountains, and planted them in that place, and ordered four walls to be built around it, and named it "*Bustan*" [Garden], which means the source of all scents."

The ancient religion of the Iranians also attaches great importance to agriculture and to building gardens, and has appreciated that, as *Zoroaster* is quoted in *Vandidad* (Third *Fargard*, Article 33) to have said to *Ahura*:

"O maker of the material world, thou Holy one! Who is the fourth that rejoices the Earth with greatest joy? *Ahura Mazda* replies:

"Who he plants more wheat, and plants more vegetable, and plants more trees. Who waters ground that is dry, or drains ground that is too wet [to plant in it]."<sup>9</sup>

<sup>7</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Pages: 32-34.

<sup>8</sup> *Ibn Balkhi*, too, names *Manuchehr* (one of the kings of the early reigns in *Shahnameh*) as the first one ever who created gardens. He believes that he was the one who collected all *scented* herbs and plants from the mountains and plains, planted them in his Garden, and named it '*Bustan*', or '*Scented Garden*'.

<sup>9</sup> Nasr, Tahereh (2005); "Persian Garden in Transit Time ", Pages: 23-25.

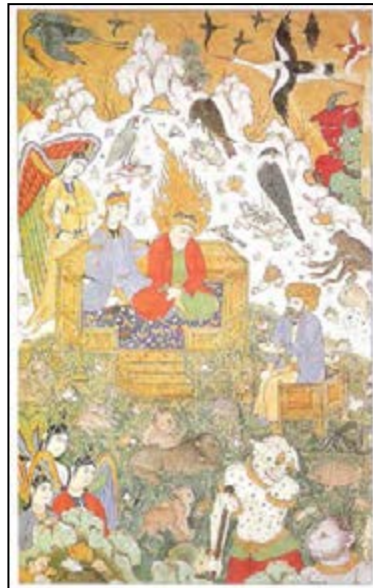


Fig. 2-302. Miniature painting from the 17<sup>th</sup> century AD, from the manuscript of *Shahnameh*, that Solomon shows Belqis, the Queen of Sheba, among her attendants.  
Source: *The Persian Garden: echoes of paradise*.

Ancient Iranians believed that God had allocated one particular day to each of his significant creations, and each one day of the type was celebrated in a feast. Thus, creation of plants was one significant course of creation to the Iranians: the "*hameh tokhmeh tree*" (all-seed) grew on the earth for the first time, and then, two birds took all its seeds around the world to scatter them so that gardens and farms come into existence. This way, a celebration was held to praise God for creation of plants<sup>10</sup>. Importance of such holy concepts is widely known from the written documents and reports ever since the rule of the ancestors of Achaemenids in *Elam*, particularly in Khuzestan; this would be even clearer when a broader perspective of the cultural and historical backdrops of the area, and its intense heat is formed. Instances of important though short notices of the type are detectable in the *Elamit* scripts and temple

<sup>10</sup> Bundahishn (1880); (in a compilation of Pahlavis texts),Pages: 99-100.

“Central features in the cosmology of the *Bundahish* are two trees, which rise beside the eternal atmosphere pool. And again, when the righteous *Zoroastrian* dies, he finds himself, at the end of the third night, among plants, inhaling fragrant odors, and there seems to blow towards him from the regions of the south, where *Paradise* is situated, a wind fragment, more fragrant than all others and the beautiful maiden that meets him there praises him, among other things, for having refrained from cutting down trees. The *Zoroastrian* heaven is left rather vague, but Islam wisely promised specific rewards and chose for the final beneficence, life eternal in a divine *Paradise* park.” (Arthur Upham Pope,1938-9, p.1428)



inscriptions. Such gardens are mentioned in the inscription of the temple *Nahunte*, the God of Sun, in *Susa*, and in the temple of Goddess *Kiririsha* in *Dur-Untash*<sup>11</sup>.

In Assyrian scripts, too, such holy gardens and their significance have been stated. For instance, *Ashurbanipal* states, at the time of overthrow of *Elam*, when *Susa* was being destroyed and plundered for 25 days on the return of Assyrians, that:

"I destroyed the temple of Elam; I overthrew its Gods and Goddesses. My warriors broke into the secret holy gardens of the temples of Susa, where no outsider had ever been able to enter or even to cast a glance at. They uncovered their secrets; they trampled them, and destroyed them by fire".<sup>12</sup>

*Ashurbanipal* deployed clusters of his warriors in sacred *Moqestan* [the Assembly of the Great Ones], in Mesopotamia (*Karkheh* River), and on a hilltop while *Tept i-Huban-I nsusi nak* was withdrawing his forces from *Bit-Imbi* (probably near *Badreh*, *Mehran*, or may be *Dehloran*) in September of 553 BC on the way to *Susa*, and was taking them to *Ti l Tuba* at the back of *Ul ai* River (*Karkheh*)<sup>13</sup>.

What is inferred from such reports about *Susa* and *Choga Zanbil* is an evidence of equal significance of gardens and temples, and of presence of enigmatic, sacred symbols in them. Archeological excavations have not yet gone as far as to find more about ancient herbs and plants. Also, not much is found in *Dur-Untash* (*Chogha Zanbil*) due to excessive sedimentation and erosion; however, the inscriptions, which are the best archeological evidences, mention the existence of such sacred gardens. This could be considered when it comes to the city of *Dur-Untash* and its surroundings. The fenced jungles or groves around the *Dez* River, considered as gardens, were natural manifestations of creation, and thus important to the man; water of the river was the symbol of purity, and the temple was the holy site: this image continues to live through to more recent times. This is where man begins to employ the nature to serve the concepts he has in mind: first, due to geographical limitations, and later, by architectural designs: the fire-temple in *Firooz Abad* in Fars province, and its sacred pond together with its surrounding gardens are a vivid depiction of this concept. Thus, it is of great importance to pay special attention to river-side archeological

<sup>11</sup> Heinz, Walter (1997); *The lost world of Elam*, Page: 67.

<sup>12</sup> See: Olmstead, Albert Ten Eycle (1923); "History of Assyria", Page: 486  
Cameron, James (1948); "History of Early Iran", Page: 206.

<sup>13</sup> Luckenbil, Daniel D. (1927); Pages:310-318. See: Piepkorn, Arthur (1927); " Ashurbanipal, I", Pages: 62-69.

findings along *Dez*, and to the natural and historical orders and sacred symbols in the nearby groves.

One *Elamit* relief portrays the capital city of *Susa* and its ziggurats located between the two branches of *Ulai* River (a symbol of deity)<sup>14</sup>. In this relief, the corpse of an *Elamit* person floats on the river along with a quiver; to the left, the elites of *Susa* are, while agitated, imploring for help. The most notable part of the engraving is the trees in the sacred gardens around the temple which are represented in a symbolic manner.

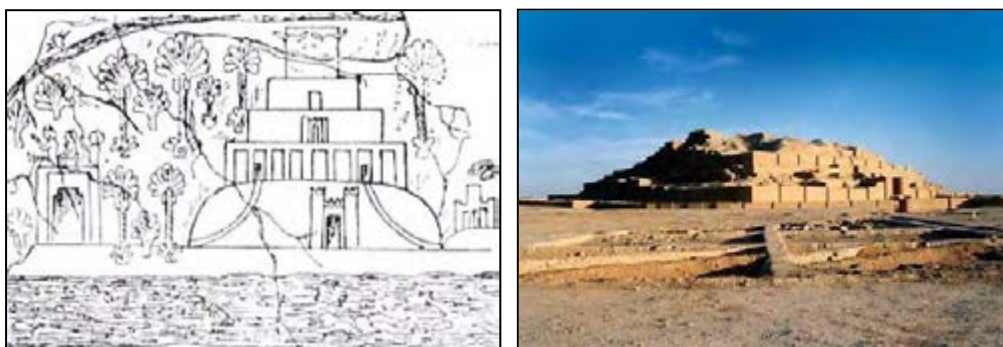


Fig . 2-303. Elamid relief, Susa and its ziggurats between the two branches of the Ulai River (a symbol of deity), Source: Persian Garden & Pasargadae

The importance of this relief is that it is the origin of what continues to emerge as the concept of settlement at sacred sites in the illustrations of following periods (for instance, in what appears in the architecture of Mausoleum of *Danial* the Prophet in *Susa*, or in the dome of *Rudband* shrine in *Dezful*). Another point to be mentioned in the *Elamit* relief is the symbolic continuity of Holy trees, which reaches its perfection during the rule of Achaemenids. It is strongly believed that landscaped gardens existed during the reign of *Cyrus the Great* and *Darius*, though no evidence of such gardens exists due to shortcomings in studies. However, remains of gates or pillars, and the remainder of *Takht-e Gohar*, which resembles the tomb of *Cyrus the Great*, raise the possibility of existence of the aforementioned gardens. Making of gardens and associating them with residential areas has been of manifest importance during the rule of Achaemenids, insomuch as according to authors of ancient times; the Hanging Gardens of Babylon, which were listed among The Seven Wonders of the Old World, were

<sup>14</sup> Heinz, Walter (1997); "The lost world of Elam", Page: 183.

built by the Babylonian king for his *Median Bride* (who was also the great aunt of *Cyrus the Great*) so as to please her, and to prevent her from being homesick<sup>15</sup>.



Fig. 2-304. Virtual rebuilding, The hanging garden of Babylonia.  
Source: Stronach, 1999

### **Achaemenids Reign**

During the rule of Achaemenids dynasty, the concepts considered as mythological or divine in architecture were given a more mundane aspects. That is, according to their religious instructions, the architects and designers made such concepts more objective, applied them in their art of architecture and garden-making, and gave them a more earthly nature. In other words, their understanding and insight of their surroundings were manifest in what they created. One example of application of such concepts in architecture is evident in the *Ancient garden of Pasargadae*, which is, considering the four sacred concepts of the Earth, the Sky (Heaven), Water, and Plants, a prototype of Iranian Garden-making.

All features and elements of the Persian Garden are manifest at *Pasargadae* to near perfection. Geometric representation of the royal garden in the heart of the great *Ancient garden of Pasargadae* in the manner that continues to live in later periods, the beautiful design of small pools, stone watercourses surrounding the royal garden, and belvederes and fences around the great *Ancient garden of Pasargadae* are all innovated for the first time.

<sup>15</sup> Talebian, M.H (2004); "Persian Garden & Pasargadae"; Rev: Berossus, "Babel Book", Page: 27

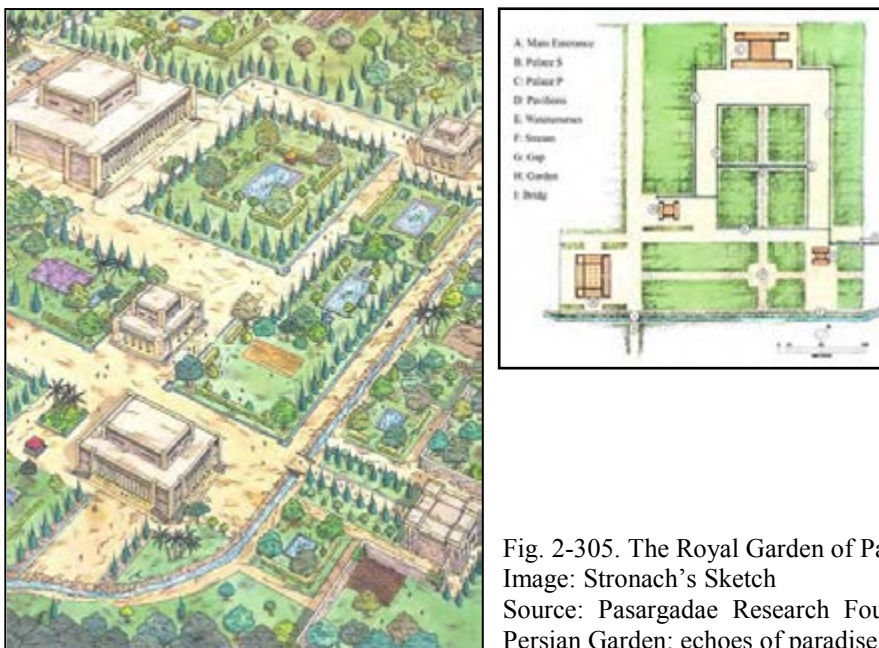


Fig. 2-305. The Royal Garden of Pasargadae.  
Image: Stronach's Sketch  
Source: Pasargadae Research Foundation Archives & the Persian Garden: echoes of paradise.

What remains from *Pasargadae* is the remainder of palaces, pavilions, and single-standing structures which overlook a pleasant landscape, and are not surrounded or limited on any of the four sides (this could be an indication of the four directions, and modeled after fire-temples or Sassanids *Char Taqis*); they have been surrounded by gardens in a logical pattern. Such structures as pavilions, watercourses, &... the pleasant outlook of the terraces over the royal garden, and all the prosperous landscapes are evidences of absolute mastery of the Achaemenids over decorative architecture, and over manners of hybridizing architecture and nature. The account provided by *Xenophon* of Athens<sup>16</sup> (compiler of the earliest historical documents regarding Achaemenids gardens) clearly depicts such innovations in garden making:

"This young *Cyrus*, the brother of *Artaxerxes II* and the governor of western provinces of Iran, had not reached the age of twenty yet, but was so diligent and ambitious. The Spartans sent him a message, expressing their wish to enter into military alliance with him, and to receive his help and financial support. Their envoy was *Lysander*, the famous Spartan commander."

Continuing, he recounts the story of the meeting [between *Lysander* and *Cyrus*] as follows:<sup>17</sup>

<sup>16</sup> Greek writer (431-355 BC), follower of Socrates

<sup>17</sup> Xenophon on Oeconomicus (articles 15, 16, 25)

"When *Lysander*, the conqueror of Athens and the commander of the Spartans came to *Cyrus's* court in *Sard* with all precious contributions of himself and his Spartan allies, he was warmly welcomed by *Cyrus*. Conversing, the two old friends walked to *Cyrus's* great garden [*Bustan*], which had been given the name "*Paradise of Sard*". As *Lysander* looked and saw the beauty of the trees, and their arrangement in orderly rows, and their equal sizes, and the right angles between their branches, and as he smelled the delicate scent in the air, he praised the garden and said: 'the arrangement of these trees and their beauty is perfect; praise be to those hands that have created such a masterpiece, and has planted them.' *Cyrus* replied: 'I have planted all trees here. I have measured the patches, and they have dug the pits following my lead. I can even show you the many trees I have planted in person.'<sup>18</sup>

Yet in another account in the year 401 BC, he expresses the interest of *Darius I* in gardens as follows:

"He expects to see heavenly gardens, full of all beautiful things that grow from the ground..."

*Herodotus*, too, refers to the interest Iranians showed in Shady trees, stating that when *Xerxes* made a stop along the royal route during his prolonged wars with the Greeks in the year 480 BC, he saw a plane tree which is the holy tree of the Plateau of Iran. It was so magnificent that the king appointed a permanent guard for it. As the empire grew richer by the levies from cities and satraps, the gardens grew larger. Achaemenids emperors constructed large buildings. One of such cities was *Susa*. *Cyrus* began to restore it, and *Darius* and *Artaxerxes* made it into city of palaces and gardens which covered an area of more than seven hectares,

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<sup>18</sup> Shapour Shahbazi, A.R (2000); "The Comprehensive Guide to Pasargadae", Page:72, and then, *Lysander* looked at *Cyrus* and his precious, kingly clothes, and the golden pendants, and the valuable gems used to ornamented his clothing, and asked," O great Commander! Have you truly troubled yourself to plant all these trees?" *Cyrus* replied," *Lysander*! Does that surprise you? I swear by the God of Sun that whenever I have been in good health, or I have not been occupied in wars or with the army, I have never sat to have a meal unless I was bathed in sweat from either military trainings or gardening." Praising, *Lysander* replied, "O great Commander! You are indeed favored by the good fortune, as you are both wise and benevolent." Such a garden could be imagined to have existed in *Pasargadae* as well. In fact, trees and gardens were of considerable importance to the *Achaemenid* emperor and all Iranian elites. As recounted by *Herodotus*, when *Xerxes* was heading up his forces to Greece, he came across a very large, magnificent plane tree, and ordered two members of his *Javidan Guard* [the Immortals] to watch it day and night. The first part of his letter to *Geodateh*, one of his rulers is quoted below:

"I hear that you do not follow my commands in all issues, as on one hand, you plant on our lands, and you grow new products, and bring them from the other side of Euphrates into Asia Minor; that I appreciate, and I would reward you from the royal treasure. On the other hand, however, you do not observe my objectives in guarding [them] and the gods of our subjects, and that is what makes me angry with you..." (Talebian, 2004: 1-2)

and were all built around one central garden. *Susa* was the administrative winter capital, and the Court would move to *Hegmatana* to avoid the extreme summer heat in *Susa*.

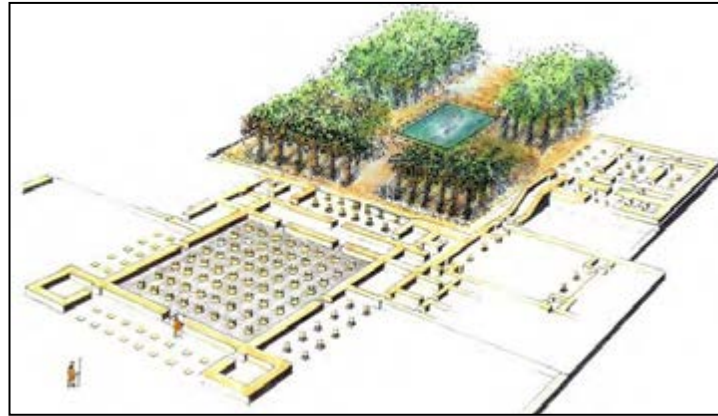


Fig . 2-306. Re-creation of palace of Artaxerxes in Susa, by the bank of Shur River built in the 9<sup>th</sup> century BC, this palace has been characterized by notable simplicity, and was constructed around an inner garden.  
Source: *The Persian Garden: echoes of paradise*.

As the ancient capital city of the *Medians*, *Hegmatana* is built on an elevation of 6000 feet in Zagros mountains, where today's Hamadan is located.

In the center of the seven surrounding walls that protected the city, magnificent terraced gardens had been built. Kings issued orders so that gardens of well-arranged rows of trees and aromatic plants were constructed, and thus set models for construction of gardens and planting variety of plants for the whole ancient world. *Darius I* has appreciate the work of the ruler of *Gatadas* in Asia Minor, and written:

"It is evident that you have given special attention to planting on the lands owned by me. I appreciate you as you have transplanted those trees from Asia Minor that grow on the other side of Euphrates; you would soon receive royal favor for this reason."

Another wise act of this empire was to import and export various plants and fruits. (As reported by *Roman Ghirshman*, Achaemenids kings introduced pistachio to the people of Aleppo, sesame tree to the Egyptians, and rice to the people of Mesopotamia.)

*Darius's* palace at the *Persepolis* is the only living trace of the glories of Achaemenids emperors (it was built by *Darius*, and was developed by *Xerxes* and *Artaxerxes I*. It was ruined and burned in the invasion of *Alexander* of Macedonia in the year 330 BC). It is not

easy to imagine heavenly gardens in the ruins of this palace <sup>19</sup>. Though it is difficult to prove that such gardens have once existed in *Persepolis*, existence of plants such as lotus, palm, and pine trees in the relieves and engravings of the ensemble could be evidences of life of such gardens, even though in an abstract manner.

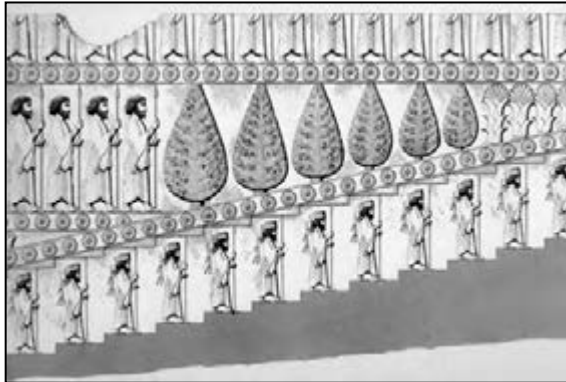


Fig.2-307. Stone relieves in the southern part of Apadana Palace, Persepolis the arrangement of flowers used at the Persepolis usually contained two rows of lotus flowers with a row of pine trees in between. According to Roman Ghirshman, Darius had planted them in over a vast area below the terrace. Sketch by: Ozen Flandin, 1841



Fig. 2-308. One of the high-ranking Median officials holding a lotus flower, which is a symbol of rebirth; Persepolis Source: *The Persian Garden: echoes of paradise*.

### **From the late Achaemenids reign to the late Sassanids reign**

During this stage of time, the form that dates back to older times (such as the model of gardens at *Pasargadae*) dominates the designing of gardens in Iran. It is mainly rooted in the early ideas derived from *Zoroastrianism*, and is based on the quartet divisions.

*Zoroaster* linked elements of faith and polytheistic believes of the Iranians through a religious approach based on two conflicting cosmic forces: the power of *Ahura Mazda*, which represents the right and the bright, and the power of the Devil (*Ahriman*), which symbolizes the wrong and the untrue.

*Zoroaster* was to believe that man and only man is responsible for his choice between either of the two, and he would be charged after his death merely based on the choice he has made in his material life. The whole nature is sacred in this approach, and fire is the most sacred element of all, as it fights and defeats darkness. Water is stored in a sea known as "*Vour*

<sup>19</sup> Khansari, Mehdi et al. (1998); "*The Persian Garden: echoes of paradise*", Pages: 42-44.

*ukasha*", which is the source of light; two rivers flow into this sea, and, as a result, the world is divided to four parts. The tree of the world, which is the origin of all plants and herbs, grows in the center of this sea known to the Iranians as "*Seymare*".<sup>20</sup>

Importance of number 4 is evident in the teachings of *Avesta*. A central, sacred spring is described in the book of *Avesta* whose water flows in four directions. As *Mishin Benova* states:

"At the centre of these heavens is a holy mountain from which bubble beautiful springs, which flow in various directions. Holy water and the four sacred gardens are described so as to mention the immortality of the mountain."

After the death of *Alexander* of Macedonia in the year 323 AD, Iran was left to the generals of his army, and that was when and how the Seleucids *Dynasty* (317 BC-138 AD) was established. This era of Hellenized manners began with the Parthians coming to power from the city of Parthia in the northeast Iran, and came to an end by deposal of *Antiochus IV*, the last of Seleucids kings, which marked the rising of *Arsacid* empire. Rising from Khorasan, *Arsacid* empires established important cities such as *Ctesiphon* near the Tigris, and *Dura* near the *Euphrates*, and built palaces such as *Mount Khajeh*, *Al-Hazra(Hatra)*, and *Assyria*. Like Achaemenian palaces, those of Parthians were built on man-made platforms, and were surrounded by gardens.<sup>21</sup>

According to *Tabari*, *Mehr Nersi*, the great Iranian minister during the reign of *Bahram V* (*Bahram-e Gur*) and *Yazdegerd II*, who was from the *Arsacid* families, and possessed vast estates near *Gur* or *Firooz Abad*, *Jareh*, and *Darin*, in which he had constructed elevated buildings. In *Abravan*, which was considered to be his most frequently used estate, he built a fire temple for himself, and three more for his three sons.]

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<sup>20</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Pages: 52-54.

<sup>21</sup> Ibid, Pages: 48.



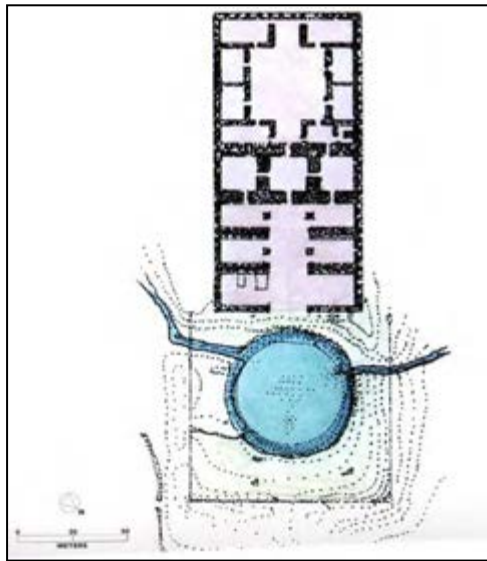


Fig. 2-309. Firooz Abad palace there was once a lake watched by this palace, which was filled by natural springs; the water from this lake flowed to nearby farms.  
Source: *The Persian Garden: echoes of paradise*.

*Tabari* then continues:

"He also made three gardens in that place in one of which he planted twelve-thousand palm trees, in the second one, twelve-thousand olive trees, and in the third one, twelve-thousand cedars. All these villages, gardens, and fire-temples have ever since remained into the possession of his heirs, who have taken good care of their estates."

Thus, *Mehr Nersi's* gardens had remained habitable through to the time of *Tabarai*, which is, 500 years after their establishment. In addition, it can be inferred from *Yaqut Hamawi's* account of the large garden with a large variety of trees built by *Bahram V* in Mazarastan that the garden has still been flourishing in the 7<sup>th</sup> century AH.<sup>22</sup>

These gardens, too, were made of four parts. Use of the quartet forms of the Sassanids reign in planning of gardens, fire temples, and *Char Taqis* (where corners are employed to transform the square plan to a circular one) is an evidence of significance the four directions. The spaces (Sassanids Paradises) open to the four main directions, to the centre of which is located the Holy Fire (the source of immortality). Such plans and forms developed later to become the model for the plans and structures architecture, and changed to further perfection.

Another aspect to the frequent use of the Quartet Form could be rooted in the Four Sacred elements of Water, Soil, Fire, and Wind in the beliefs of people of ancient Iran, and their respect for the four important natural elements of Earth, Skies, Plants, and Water. Thus, use

<sup>22</sup> Talebian, M.H (2004); "The Persian Garden and Pasargadae", Page: 5.

of number four and the four directions is considerable in Iranian architecture and that of the gardens in particular.

The Sassanids were the first ones to employ *Pendentive*, and to learn about and make porticos attached to the structures originally by the Parthians. Traces of such novelties were first noticed on the remains of palaces and belvederes of the gardens of *Sassanid* kings, which had formerly been used as the residence of *Artaxerxes I* in *Firooz Abad* plain.

These palaces were a complex of porticos and arched halls built on a large platform facing a natural water spring from which, according to Arab historians, water flowed through canals to the king's gardens. (One ensemble is located in *Ctesiphon* that belonged to *Khosrow I*, located in a vast, green area with a lot of deer, and encircled with high walls). What remains now of the original structure is an oval-shaped arch named *Taq-e Kasra* (*Kasra Arch*)<sup>23</sup>, which was in fact the king's hall of ceremony in which laid the famous *Bahar-e Khosrow* carpet<sup>24</sup> (which depicted an idealistic garden of four seasons)<sup>25</sup>.

Another one of famous garden-palaces of that era was *Taq-e Bostan*, with all its crystal clean springs and well-known caves in Kermanshah, which has been engraved with scenes of a Royal hunt. Also, palace and edifice of *Khosrow*, built by King *Khosrow II* for his beloved *Shirin*, is another one of the palaces dating back to this period. According to Arab historians, this palace had been located in the heart of gardens as large as 300 hectares, and had been walled. It overlooked covered corridors and cooled rooms<sup>26</sup>. According to *Ebn-e Faghih-e Hamedani*, this building has had one of the largest, most beautiful gardens, and had been decorated with two beautiful water courses. He states that the whole edifice has had the general look of a *Sassanid* garden, with an enclosed, rectangular area in front of the palace or the house, and parallel to it, which was divided into four parts using paths and watercourses, and various trees were planted in each of the four parts.

<sup>23</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Pages: 48-51.

<sup>24</sup> The backdrop of this carpet has been gold-embroidered, and its margins have been inlaid with turquoise. It covered an area of about 72 sq. m. The carpet has been divided into four parts: one with flowers and blossoming spring trees, the other with trees of summer fruits, the third part with an autumnal scene, and the fourth, with a scene of winter, made of gems and colored silk. Paths and gutters had been marked with colorful precious stones.

<sup>25</sup> Talebian, M.H (2004); "The Persian Garden and Pasargadae", Page: 5.

<sup>26</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Page: 51.

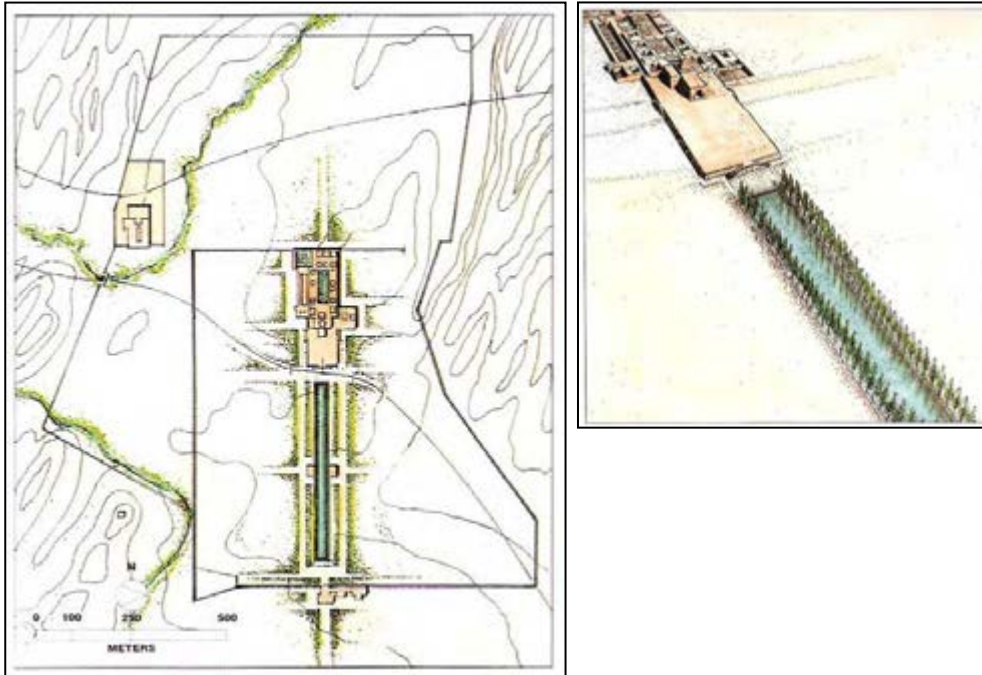


Fig. 2-310. A plan and a prospect of Emarat-e Khosrow's (Khosrow's edifice) The palace was located along a road which connected the plateau of Iran to the plain of Mesopotamia. Andre Godard says that to reach this palace, one had to climb up double steeped-paths like those found at Persepolis.  
Source: The Persian Garden: echoes of paradise.

Another example of such structures is the *Baqestan* (the Holy Mountain), which is now known as *Bisotun* or *Behistun*, and is located to the east of Kermanshah. This mount, which is a mound of rocks, surrounds the large garden of *Paradise*, and a permanent spring, from which bubbles very clean water, and flows into the sacred lake. The scenery is perfectly eye-catching.<sup>27</sup>

<sup>27</sup> *Behistun* was located on the road that stretched from *Babylon* to the capital of the *Medians* and to *Hegmatana*, and then lead to the city of *Rey*, which was on the Silk Road.

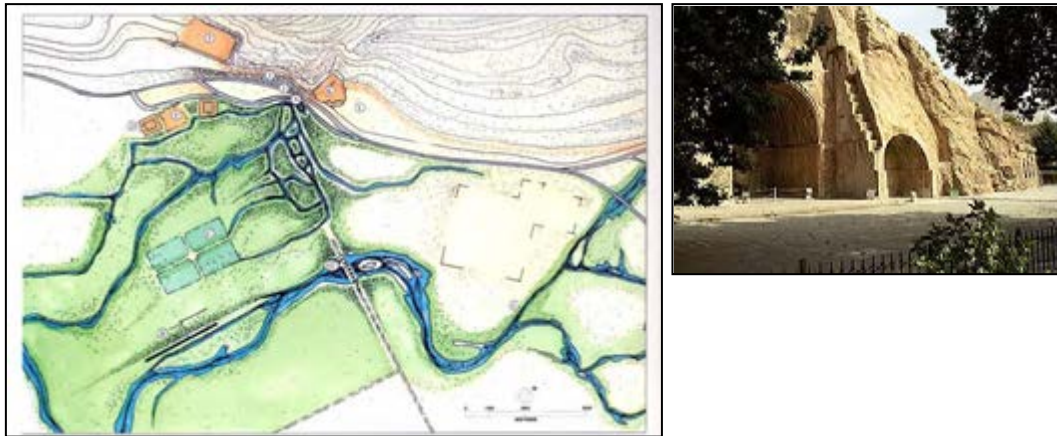


Fig. 2-311. Taq-e Bostan  
Source: The Persian Garden: echoes of paradise.

Another one of the ensembles of this period, which dates to eras earlier than the rule of the Sassanids, is *Takht-e Soleyman (Throne of Solomon)* ensemble to the south east of *Urmia* lake. The platform over which the ensemble is constructed is located on a natural elevation of 20 meters high, and there is a vast lake in the heart of it.

After the water subsided in the crater of the volcano of *Zendan-e Soleyman (Solomon)*, which was the first sacred site in the enclosure, people evacuated the area, and, lying on a platform of calcareous sediments was *Takht-e Soleyman*, with a lake of over 60m depth. During the archeological excavations a residential area was discovered over the platform of *Takht-e Soleyman*, near the holy fire temple of the ensemble, which belonged to the Achaemenids reign, and was in the form of a small village of undersized houses each with several burials in their floor. The houses were made of brick over a Rubble Stone foundation of 60cm.<sup>28</sup>

As noticed in this ensemble, too, the significance of sacred elements of water and plants, and creation of gardens in a natural bed is evident in that period. In this instance, water is at the heart as worshipping of *Anahita* (Goddess of waters) has been in close association with worshipping of fire. The holy seat (*Azargoshasb* fire-temple) on the platform is a symbolization of unity of the land, and its axis is parallel to, and at the center of the lake.

The most important places such as the gate, the entrance vestibule, the courtyard, the main entrance, the worshipping place with the fire altar, and the main portico which overlooks the

<sup>28</sup> Naumann, Rudolf (2003); " Die runinen Von Tacht-e Suleiman und Zendan-e Suleiman und umebung ", Page: 15-22.

lake are located along this axis.<sup>29</sup> In other words, the artists chose to put their religious ideology in natural frames, and employed important places (water and plantation were the two main aspects to this choice).

Finally, the Sassanids kings were the last heirs of west Asia whose authentic heritage traveled beyond the boundaries of Iran, and eternally penetrated the arts of neighboring states (India, Egypt, Sri Lanka, and Turkey)<sup>30</sup>.



Fig. 2-312. Takht-e Soleyman

### **The Persian Gardens and Islam**

As Islam dominated the land of *Persia*, and affected its architecture, its traces turned evident in the Iranian art of garden making. In the reign of *Buyid* dynasty, who ruled Iran from the year 933 AD, *Adud-al Dawla*, who was one of the most prominent figures, chose the city of *Shiraz* as his capital, and decided to found his palace and his residential garden outside the city (according to *Moqaddasi*, the 10<sup>th</sup> century AH geographer, his palace was located in the centre of a garden)<sup>31</sup>. During the rule of *Abbasid* caliphates, and as the capital was moved to Bagdad, governmental structures and factors began to influence the Iranian art of architecture

<sup>29</sup> Naumann, Rudolf (2003); " Die runinen Von Tacht-e Suleiman und Zendan-e Suleiman und umebung ", Page: 44.

<sup>30</sup> Talebian, M.H (2004); "The Persian Garden and Pasargadae", Page: 6, (An example of such influences is evident in Al-hamra garden in Andalucia).

<sup>31</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Page: 56.

and gardening. Gardens were divided into two classes as for their manner of settlement: the gardens inside the city, and those outside.

The outside gardens included rather plain buildings instead of the castles, and were of more frequent use in summer time. Known also as the administrative gardens, the inside gardens on the other hand comprised several porticos and courtyards planted with trees. Such gardens are in turn categorized in three groups:

1. Those gardens located in the centre of the town, with the palace or belvedere at its centre;
2. Those gardens built near the administrative square [centre?], with their belvederes along the sides, facing the square;
3. Those gardens built along the outskirts of the town, and in the spots with the best fortifications as the king was not believed to be safe enough inside the town.<sup>32</sup>

This method was also applied during the rule of Ghaznavids empire, as a result of which several gardens such as *Bagh-e Piroozi*, *Bagh-e Mahmoodi*, *Kooshk-e Dolat Abad*, and *Kooshk-e Sepid* were constructed during the reign of *Mahmood Ghaznavi*.<sup>33</sup>

Architecture and urban development flourished a lot under the rule of the Seljukids kings inasmuch as most historical documents of the period before the invasion of Mongols have stated that. Among all gardens of this era, *Bagh-e Karan*, *Bagh-e Fallasan*, *Bagh-e Bekr*, and *Bagh-e Ahmed* are to be mentioned, which were constructed in Isfahan, by the order of *Malik Shah*, one of Seljukids kings.

After Mongols' invasion and despite the mass destruction they caused in Iran, which brought about a great rupture in the development of Iranian arts, the Iranians did not lose their taste and enthusiasm for building gardens and planting flowers. This is evident in scientific, historical, and literary works such as the art of miniature and painting during the rule of the successors of Tamerlane, where in many instances, gardens are depicted. According to *Donald Wilber*, *Ghazan Khan* (1256-1304 AD) was one great builder among Mongolian rulers of Iran, and constructed a large garden outside the city of *Shanb* to the west of Tabriz. As expressed by historians, this garden, which comprised structures for cultural and medical uses, was later named "*Bagh-e Edalat*". A century later another famous garden in *Tabriz*

<sup>32</sup> Motedayen, Heshmatolah (2004); "Posture (Settlement) of Persian Garden ", Page: 52.

<sup>33</sup> Encyclopedia of Islamic (1994); "The word Bagh".

known as "*Hasht Behesht*" was built by *Uzun Hassan* (1466-1478 AD). This one had an octagonal belvedere with four porticos for entrance.

*Tamerlane* came to power in the north of Iran and in Samarkand in the year 1369 AD. After learning about the traditional Iranian gardens, he started to establish gardens of the same style around the capital city of Samarkand, and gave them Iranian poetic names. (*Bagh-e Behesht* [garden of paradise] and *Bagh-e Eram* were both built in the year 1378 AD, and for his wife, *Tuman Agha*).



Fig. 2-313. Miniature from the Mongols reign it is taken from Babur Nameh, showing Babur while monitoring the construction of one of his many gardens  
Source: *The Persian Garden: echoes of paradise*.

Thanks to its water sources, this city has always been green and thriving, and feasts and ceremonies have always been held there by *Tamerlane*. The Spanish ambassador, *Ruy Gonzalez De Clavijo*, describes the gardens where the feasts were held as streets with plenty of trees planted in vast lands surrounded by walls. He says:

"Located in Samarkand, this garden was in the middle of a man-made mound or mound. Its image reflected in pools and canals that not only watered it, but also marked the four zones and the axis

of the garden. There were terraces on the second level of this palace which, like the belvedere in the garden, overlooked plains of orchid and streets lined by trees."<sup>34</sup>

The numerous gardens made then in *Samarkand* were the prototypes of those constructed in the following centuries. As gathered from what was quoted, lands surrounded by high walls, division of the space into four zones, one main river or gutter, a belvedere or palace in the centre, choosing of a rather steep piece of land for the location, or making one to make the water flow, and planting of vine trees along with orchards or gardens planted for refreshment are all among characteristics of the architecture of such gardens.<sup>35</sup>

In other words, as the Timurids came to power, a new style of urban designing was put on agenda by the local rulers, in which cities were made with numerous stunning gardens; such cities were known as "Green Cities".<sup>36</sup> This was how the prototype of Garden-Cities came into existence, and reached perfection later under the rule of the *Safavids*. Also, gardens were opened to the public during this stage (as seen in *Bagh-e Adalat*). Such gardens are also mentioned and described in *Quran* where it talks about the paradise to which enter the saved ones on the Judgment Day, and states that it is a garden, or comprises eight gardens.

"There are green plains, water fountains, and trees of fruits, palm, and pomegranate in this garden. There are breezy belvederes, charming companions, gems, silk, and silver in this garden."

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<sup>34</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Page: 56-66.

<sup>35</sup> Wilber, Donald (1979); "Posture (Settlement) of Persian Garden ", Page: 50.

*Zahir-ud Din Muhammad Babur* was the fifteenth successor of *Tamerlane* and *Genghis Khan*. As the conqueror of *India* and the man who established the Mongolian empire in *India*, Babur was, is stated in his biography, a well civilized, pleasure seeking man, who had also interests in poetry, music, and nature, and was a great garden designer. Some of his successors among Mongolian emperors inherited his interest in farming and gardening, and his wits in garden designing. *Shalimar* gardens in *Kashmir* and *Taj Mahal* in *Agra* are examples of gardens built on their orders.

<sup>36</sup> Motedayen, Heshmatolah (2004); " Posture (Settlement) of Persian Garden ", Page: 55.





Fig. 2-314. A miniature painting depicting Prophet Khadhir and Elijah at the Spring of Immortality.  
Source: *The Persian Garden: echoes of paradise*

In a garden of this type, a holy pattern of the perimeter walls or the inner outlook of the garden maintained the balance of all elements, and highlighted the outlines of a rectangular space which was divided into four parts either by water canals or intersecting pathways. The term used to refer to this plan was *Chahar Bagh*, which is still in use, and means ‘the four gardens’, which denotes the geometrical dimensions and quartet division of the lands. At the point where the pathways or canals intersected, there was a belvedere, a palace, a pool, or a single tree, but the most frequent one was a pool of rectangular, octagonal, or semicircular shape. Some with a history of thousands of years, these features shape up the main frameworks of the Safavids architecture.



Fig.2-315. Garden of Paradise, a page from the illustrated guide to Mecca and the other side of the city; the Indian version dates back to the early 17<sup>th</sup> century AD. The garden is depicted as a chahar Bagh, in the centre of which is a small pool whose water flows from the Paradise (Kosar: Fountain in Paradise)  
Source: The Persian Garden: echoes of paradise

*Abas Mirza* was one of the greatest architects of the Safavids reign, who is also known as *Shah Abas the Great* (1587-1628 AD). Almost from the very beginning of his rule he ordered public and private estates to be built, and gardens to be developed and expanded. Following the model set by his grandfather, *Shah Tahmasb*, who chose Qazvin as his capital city (and meant both to remain as far from the ottomans as possible and to settle closer to the centre of the country), he constructed wide streets with beds of flowers along these structures. Architects employed by the king constructed buildings named *Ali Qapu*, *Dolat khaneh*, and *Chehel Sotun* palace.<sup>37</sup>

Spanish ambassador, *Don Garcia De Silva Figueroa*, who stayed with entourage at the royal mansion of Qazvin on June 16, 1618 in order to meet with *Shah Abas*, describes such gardens as follows:

"... then, in the centre of the garden on the right, we turned into a smaller alleyway lined with trees, which lead to a large, beautiful pool. The pool covered an area of 150sq. ft, and had a stunning belvedere in its centre, which was open on all sides. This garden was considered to be one of the greatest creations of *Shah Abas*..."

<sup>37</sup> *Ali Qapu* overlooked a park and a large square known as *Horse Square*, which was a place for playing polo stick or holding ceremonies, and functioned also as a park both for the courtiers and the ordinary people.

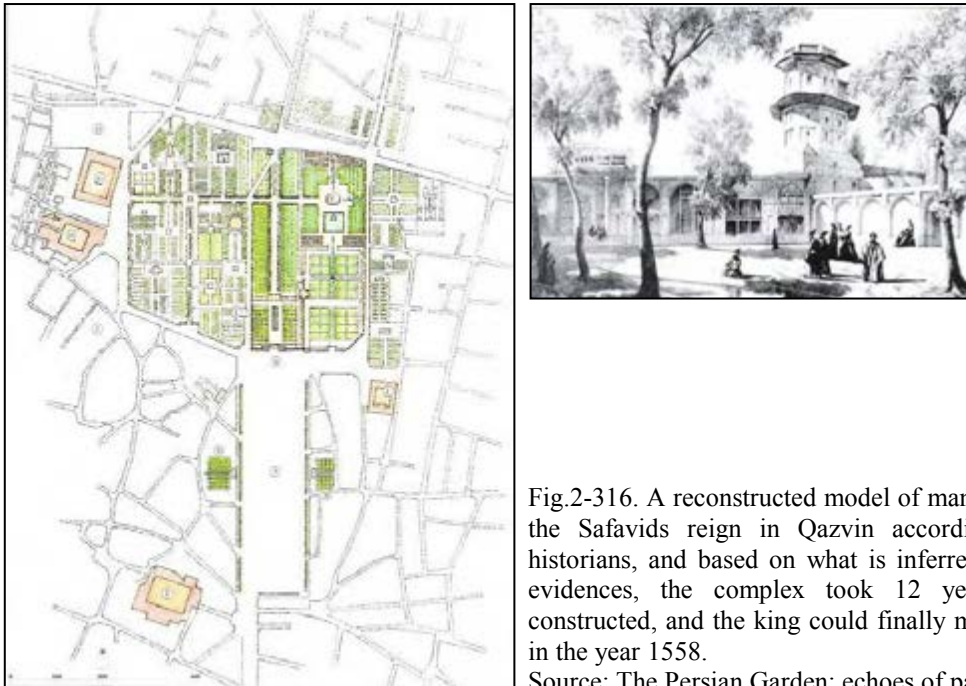


Fig.2-316. A reconstructed model of mansions from the Safavids reign in Qazvin according to the historians, and based on what is inferred from the evidences, the complex took 12 years to be constructed, and the king could finally move into it in the year 1558.

Source: The Persian Garden: echoes of paradise.

*Sir Thomas Herbert*, who was traveling in Iran in the year 1627 together with the British ambassador, has stayed at a heavenly royal garden in Qazvin today known as *Taj Abad*. The garden was irrigated by a small creek filled by the *Qanat*; it is still in the same manner it was then. He writes:

"... due to the presence of this creek, the garden was covered in roses and other types of flowers, and there were a lot of plain trees in it which produced shadow. There were also trees of pomegranate, peach, apricot, apple, pear, cherry, and chestnut in this garden; thus, it seemed like a paradise on earth in the heart of a desert of sand and salt."<sup>38</sup>

Safavids kings also put the construction of such palaces at their water and land frontiers, and along the costal line of the Caspian (the choice of locations for construction of such gardens was yet another significant feature of gardens of Safavids rule).<sup>39</sup> Garden ensembles such as *Farah Abad*, *Ashraf* (near Behshahr), *Abas Abad*, *Safi Abad*, Amol, and Babol are examples of gardens built near the Caspian Sea on the order of *Shah Abas*. He meant to fulfill two objectives by construction of such gardens: firstly, he wanted to expand his authority, and to

<sup>38</sup> Khansari, Mehdi et al. (1998); "The Persian Garden: echoes of paradise", Page: 71-77.

<sup>39</sup> John Brooks believes that this was the first time in the history of this land that the outer spaces of a garden are connected to the inner ones.

be in perfect control of these areas, and secondly, he meant to establish such palaces both to use them for leisure, and to demonstrate his power to the foreigners.<sup>40</sup>

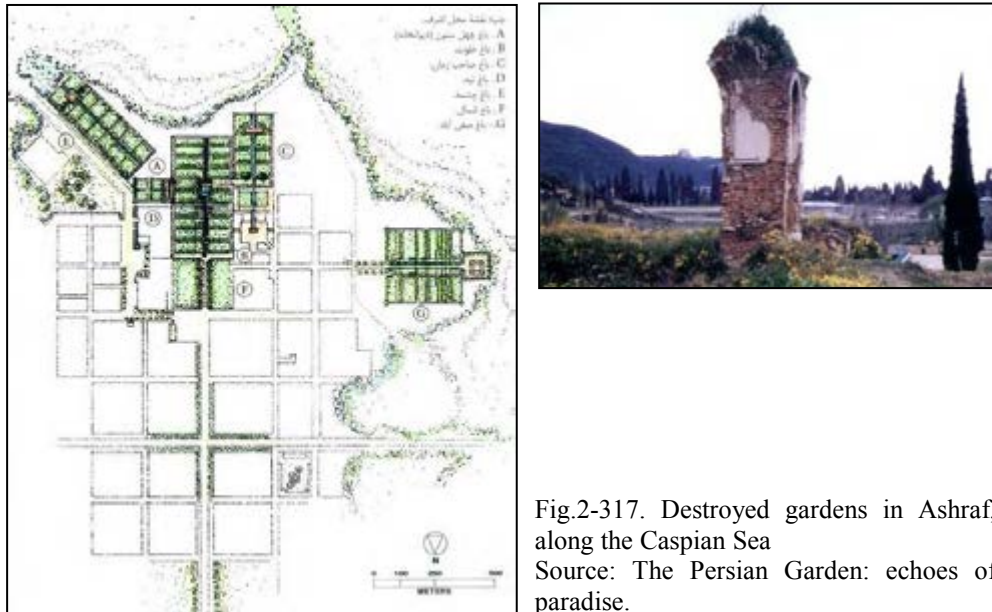


Fig.2-317. Destroyed gardens in Ashraf, along the Caspian Sea  
Source: *The Persian Garden: echoes of paradise*.

Famous gardens from this period can be listed as: *Bagh-e Takht*, *Bagh-e Kaj*, *Baba Amir*, *Toopkhaneh*, *Nastaran*, *Bolbol*, *Fath Abad*, *Goldasteh*, *Kavoos khaneh*, *Pahlevan*, *Abas Abad* (in Kashan), *Taj Abad* (Natanz), *Safavi* and *Bagh-e Khalvat* (Behshahr), *Saadat Abad* (Qazvin), *Fin* (Kashan), *Golshan* (Tabas), *Bagh-e Ashraf*, *Safi Abad*, *Jahan Nama* (*Farah Abad*), *Bagh-e Shah* (*Bar Foroosh*), and garden-palaces of the Safavids kings in *Isfahan* (*Hezar Jarib*, *Ayeneh Khaneh*, *Hasht Behesht*, *Chehel Sotun*)<sup>41</sup>.

Timurids and Safavids kings, and the Qajars who followed them, built gardens on their path to other cities, either in form of a planted area with marquees for temporary staying, or, as is at *Bagh-e Fin* in Kashan, with buildings which were meant to serve as temporary residences.<sup>42</sup>

<sup>40</sup> Motedayen, H. (2004); " Posture (Settlement) of Persian Garden Garden ", Page: 55. *Amrollah Safavi* writes that the reason for the *Safavids* kings to pay particular attention to Behshahr was its location, and its link to the invasions of Uzbek and *Shagsar* tribes.

<sup>41</sup> Encyclopedia of Islamic (1994); "The word Bagh".

<sup>42</sup> Motedayen, H. (2004); "The Settlement of Persian Garden ", Page: 55.

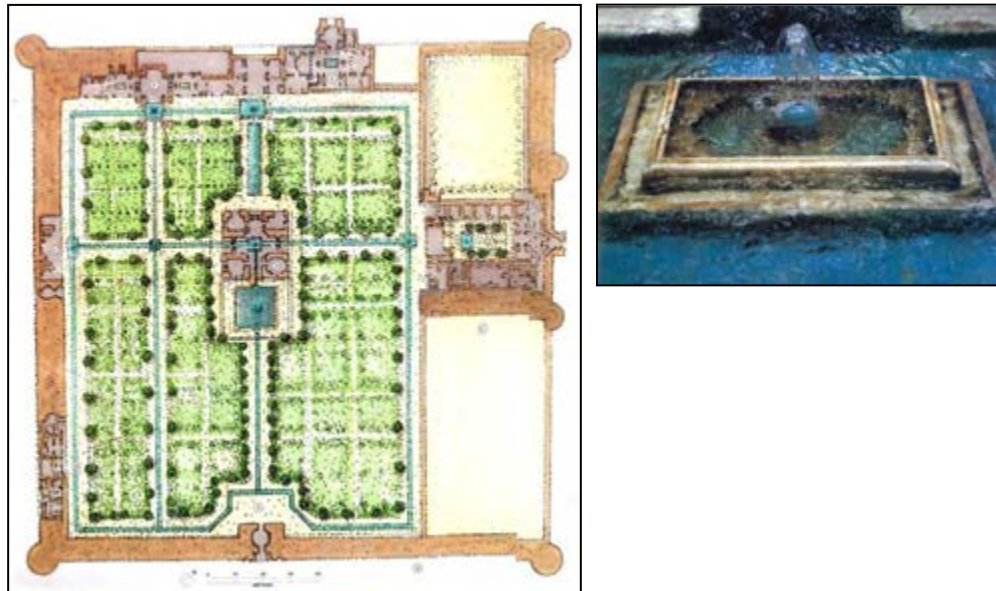


Fig. 2-318. Bagh-e Fin, Kashan it is a garden built in admiration of spring, and the melody of water flowing is the most magnificent song heard there. It has always been preferred by Iranian rulers, and the Safavids, Zands, and Qajars.  
Source: *The Persian Garden: echoes of paradise.*

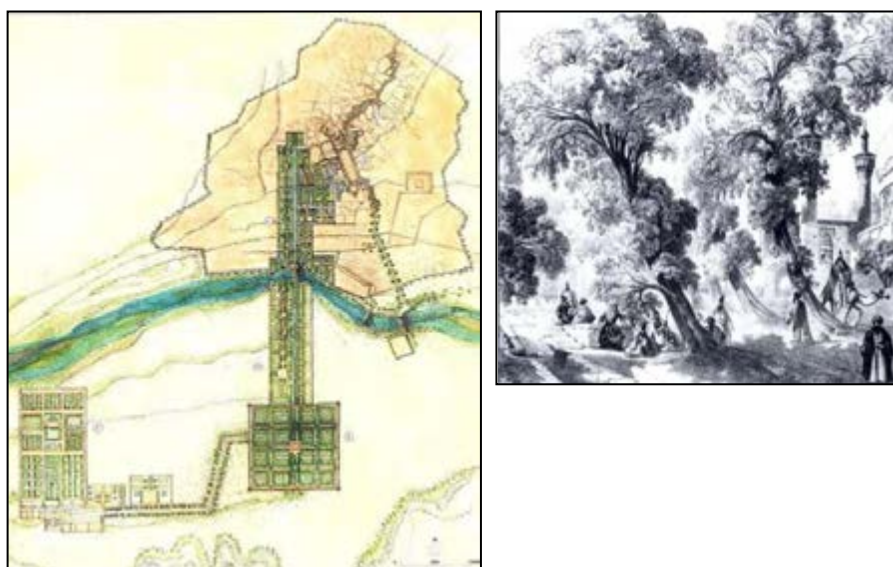


Fig. 2-319. Map of Isfahan and its gardens under the rule of the Safavids  
Lithography by Flandin, 1840  
Source: *The Persian Garden: echoes of paradise.*

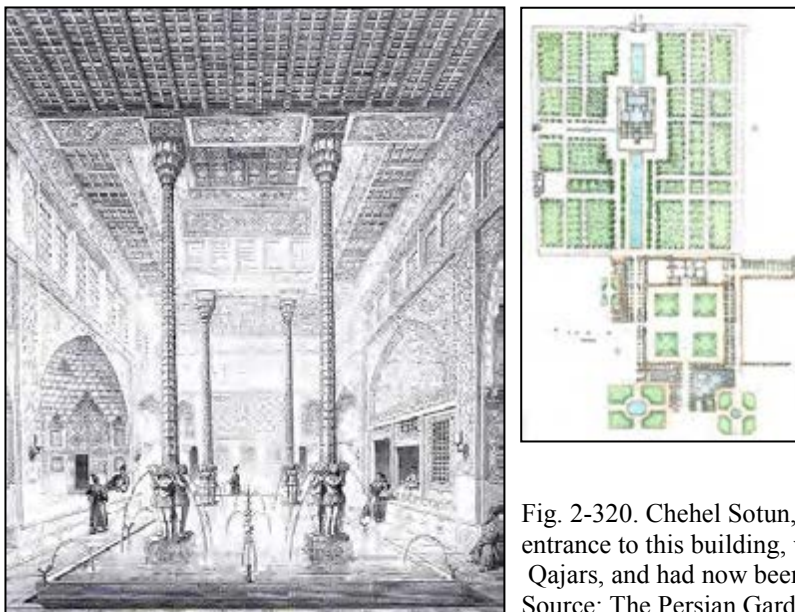


Fig. 2-320. Chehel Sotun, Isfahan an aerial picture of the entrance to this building, which was build under the Qajars, and had now been destroyed  
Source: The Persian Garden: echoes of paradise.

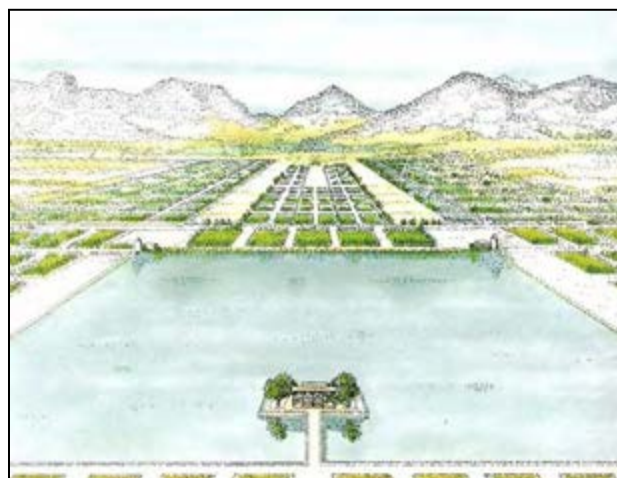


Fig. 2-321. Reconstructed model of Bagh-e Farah Abad,  
Source: The Persian Garden: echoes of paradise.

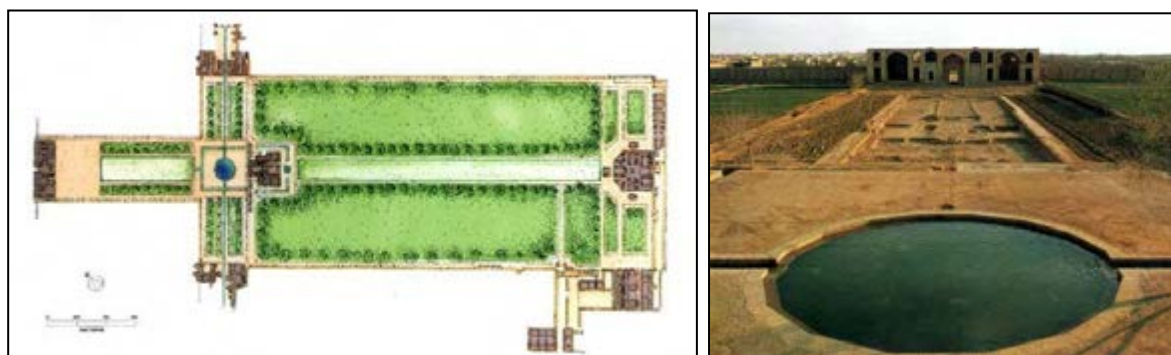


Fig.2- 322. Bagh-e Dolat Abad, Yazd  
Source: The Persian Garden: echoes of paradise.

It is to be mentioned that no significance alteration occurred in the styles of garden-making during the rule of the Qajars. Some the gardens built under the Zands are *Dolat Abad* (Yazd), *Namir* (Taft), *Bagh-e Nazar*, *Delgosh*, and *Haft Tan* (Shiraz).



Fig. 2-323. Bagh-e Delgosh, Shiraz  
Source: The Persian Garden: echoes of paradise.

During the rule of the Qajars, close ties with Europe and foreign governments, frequent trips of *Nasser al-Din Shah* and other men of power to the west, and sending of students and artists to Europe paved the way for establishment of ties with European culture; that was the main reason why, like other forms of art, Iranian art of garden planning was influenced by European artistic styles, and some forms and motifs were borrowed by the Iranian planners to be applied in Persian Gardens.



Fig. 2-324. Bagh-e Eram, Shiraz this garden was planned by Mohammad Hussein the Architect, known as Shirazi, over the foundation of an old house  
Source: The Persian Garden: echoes of paradise.

The significance of garden-planning increased so much during this period that the elites and the rich competed in planting larger variety of flowers and plants. This was insomuch as wherever they spotted a new type of plant, they provided means of taking it to their personal gardens. Decorating of the plants by cutting branches, arranging of the plants in rather geometrical arrays, installing statues in the gardens, and use of ornamental lawn and plants in the open area before the edifices were the main features of the art of garden-planning during this stage.<sup>43</sup>

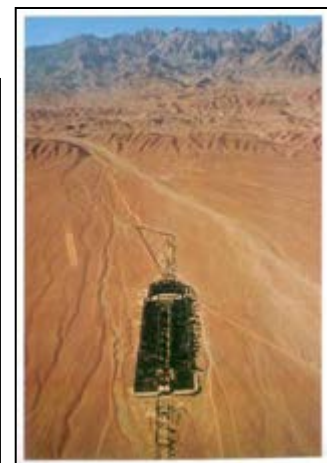
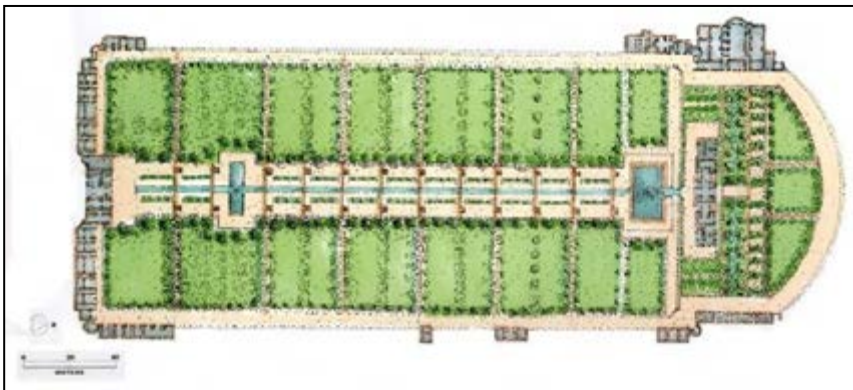


Fig. 2-325. Mahan garden, Kerman this garden comprises similar terraces parallel to the natural slope of the land. It has had wide canals which joined to form a small waterfall. Also, cedars were lined along the two sides of these canals, creating a stunning outlook.

Source: *The Persian Garden: echoes of paradise*.

Some of the most famous gardens of this period in Iran are *Nezamiyeh*, *Negarestan*, *Laleh Zar*, *Bagh-e Atabak*, *Bagh-e Golestan* and palace, *Bagh-e Ma'oudiyeh*, *Bagh-e Kamraniyeh*, *Bagh-e Sho'a'ol-Saltaneh*, *Bagh-e Shah*, *Doshan Tappeh*, *Farah Abad*, *Eshrat Abad*, *Saltanat Abad*, *Ferdous*, and *Bagh-e Sahebgharaniyeh* and palace. Also following gardens in other cities are to be mentioned: *Eram*, *Afif Abad*, and *Narenjestan* in Shiraz, *Akbariyeh* in Birjand, *Behelgard-e Shokat Abad* and *Rahim Abad*, Mahan in Kerman, and *Pahlevanpur* garden in Mehriz. Some of these gardens bear features from the architecture of the Qajars rule, but they are in fact older; for instance, *Bagh-e Eram* in Shiraz has traces and works of the Ilkhanids and the Seljukids, and later, up to the Pahlavids.

<sup>43</sup> Mo'ayer-ol Mamalik, D. (1993); " Private Life Notes of Nsser al-Din Shah ".



Though European elements influenced the art of garden planning in Iran during this phase, the basic strictures and elements employed remained deeply Iranian, and kept to be inspired by the culture and civilization of the ancient Iran.

Fortunately, the concept of the Persian Garden has survived the course of history, and emerged in houses, palaces, parks, and other public urban sites such as *Niyavaran* palace, *Sa'ad Abad* palace, and *Qeytariyeh* garden as a part of the Iranian identity.

Next, we are going to review a history of most significant gardens mentioned in the dossier as examples of Persian historical Gardens.

## 2.b.2 History and development of nominated property

### *Ancient Garden of Pasargadae*

#### **The Achaemenids empire**

Nearly one thousand years before the birth of Christ, some *Caucasian* tribes known as *Arians* moved from the south of today's Russia to the plateau of Iran. There, they were divided into two branches: the Medes who settled in the higher areas of *Zagros* range, and chose *Ecbatana* or the present day Hamadan as their capital city. The other branch were the Persians, who continued their journey through Iran southwards, and ultimately settled in *Anshan* and *Parsumash*.

*Medes* in the west of plateau of Iran, Persians in the south, and other communities such as *Urtians*, *Mannians*, *Kassites*, and people of *Sialk* in present day Kashan were constantly threatened by the invasions of the bloodthirsty, belligerent tribe of Assyrians from the west. Every now and then, Assyrians attacked their neighboring communities, and slaughtered them all. No sooner than the 7<sup>th</sup> century BC, Medes were powerful enough to fight them back. Finally, in the year 612 BC, the *Median* king *Cyaxares II* invaded the Assyrians capital of Nineveh, and defeated them once and for all.

In that time, Persian communities had replaced the *Elamites*<sup>44</sup>, but were not still powerful enough to resist the *Medes* attacks. Under the leadership of one of their chieftains named Achaemenes and his son, *Teispes*, the nomadic Persians stopped immigration, and settled down to establish a not very large kingdom. After *Cyaxares II*, his son, *Astyages* rose to power, and to establish peace, he united the two communities through marriage of his daughter and one of the Persian kings. Prince *Cyrus* was the child of this marriage<sup>45</sup>.

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<sup>44</sup> Sumerians were the oldest tribe to settle along the north coast of the Persian Gulf in the plateau of Iran. In short distance to the north lived the *Akkadians*. About 2000 years BC the *Elamites* defeated the *Sumerians*, and settled in Mesopotamia, to the south of the present day Iran.

<sup>45</sup> Giving the story a tinge of legend, *Herodotus* states that:

“The Median king, *Astyages*, sees in a dream that a tree grows from the womb of his daughter, *Mandane*, which throws shadow over the whole country. His dream interpreters told him that his daughter's child would become a victorious king. To prevent this, he gives his daughter to the Persian king, *Cambyses* in marriage. After *Mandane* gives birth to *Cyrus*, his grandfather leaves him to one royal confidant named Harpagus, and orders him to kill the baby. He disobeys, and gives the newborn to a shepherd so he takes care of him. At the age 10, while playing games with other children of his age, *Cyrus* is chosen the king by other children. Then, he harshly punishes one of the disobedient kids. The kid complains about the mishap to his father, who was one of the elites of the *Medes* court. Somehow, the story is narrated to the king, who in turn orders further investigations, which ultimately results in recognition of his grandchild, *Cyrus*. The *Moq* clergies gather for consultation, and state that their prediction has come true, and that there is no

Not only was a genius in the art of war and governing of the country, *Cyrus* also a man of great manners. At the time of conquest of Babylon, he simply managed to enter the greatest trade center of the time without any bloodshed by reversing the course of *Tigris* into Babylon. He set free forty-thousand *Jews* who were captives of Babylon, so they could return to their homeland with all their belongings. This brilliant management revived the great trade center, and brought him the fame as the first man ever to establish the Human Rights<sup>46</sup>.

That saith of *Cyrus*, He is my shepherd, and shall perform all my pleasure... Thus saith the Lord to his anointed, to *Cyrus*. (The Holy Bible, Isaiah 44-45)

The rise of Persians as conquerors of the ancient world, and founders of the first Persian Empire is narrowly linked to the site of *Pasargadae*. It was from here that for the first time *Cyrus the Great* rose against the Medes; the plain of *Pasargadae* was the battlefield of *Cyrus'* army and the Medes in 550 B.C.; the Medes were defeated and Persians annexed *Median* territories. After this date, *Cyrus* continued to conquer most of the *Ancient Near East*. The Persians took Sardis, the capital of the *Lydian* kingdom in *Asia Minor*, in 546 B.C. Later, in 539 B.C., *Cyrus* opened the gates of Babylon, the heart of the oldest kingdom of that time. In 538 or 537 B.C., *Cyrus* carried out his last campaign, against the *Massagetae*, a nomadic people possibly living north of the *Iaxartes*, somewhere east of the Aral Sea. It was his last battle; the nomads in one decisive encounter defeated the Persians; *Cyrus* was killed in the battle, and his body was recovered and borne back to his homeland, at *Pasargadae*.<sup>47</sup>

At the time of his death in the year 530 BC, he was the king of the greatest empire of the world ever. He treated the defeated kindly, and respected their beliefs and traditions. Such manner was unprecedented among the victorious rulers of that time. He was the first Persian king and the first leader in the world to be given the title great. He chose *Pasargadae* as his capital, which still shines through the course of history with the very simple yet glorious Tomb of *Cyrus the Great*.<sup>48</sup>

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reason for *Astyages* to worry. Thus, *Cyrus* is returned to his parents. However, the king orders that *Harpagus's* son is killed to punish him for his disobedience, and makes the father to eat his son's flesh in a feast. Years pass before *Harpagus* makes *Cyrus* revolt against his grandfather, and helps him in the war that follows, and thus he finally seeks revenge."

<sup>46</sup> Saidi, Farokh (1999); "Guide Book of Persepolis, Naqsh-e Rostam & Pasargadae", 19-25

<sup>47</sup> Nomination dossier of Pasargadae (2002).

<sup>48</sup> Saidi, Farokh (1999); "Guide Book of Persepolis", Pages:19-25

The construction of *Pasargadae* as the capital of the Achaemenids empire is the most important testimony of either the rapid growth of a new empire and the birth of Achaemenids art and architecture.<sup>49</sup>



Fig. 2-326: a map of the Achaemenids empire at the time of Darius the Great (522-486 BC)  
The map shows the twenty-two kingdoms each with a royal garden.  
Source: *The Persian Garden: echoes of paradise*.

### ***Origin of the name of Pasargadae:***

It has been almost two-hundred years since “*Mashhad-e Madar-e Soleyman*”, or the Killing site of *Solomon’s Mother*, was recognized to be the tomb of *Cyrus the Great*, and *Dasht-e Morghāb* [*Morqāb plian*] as the old *Pasargadae*. All this while, there have been numerous theories concerning the spelling and meaning of *Pasargadae*. The first one to comment was *Herodotus*, who believed that ‘*Pasargadi*’ was the name of the most significant Persian tribe, from which the Achaemenids originated. Then, *Strabo* on the other hand believes that ‘*Pasargadae*’ is both the name of a Persian tribe, and their settlement.

<sup>49</sup> Nomination dossier of Pasargadae (2002).

Also, according to the historians, the first person to mention the name of *Cyrus's* capital was *Ketzias*, the Greek doctor of *Darius* and *Artaxerxes II*, who lived in Iran, and was most probably perfectly familiar with the name. He writes:

"*Cyrus* defeated the last of Median kings near *Pasargadae*"

Then, there is *Aristobulus*, one close companion of *Alexander* of Macedonia, who says he looted the treasures of *Pasargadae*. *Nicholaus of Damascus* and *Pelianus* have also mentioned *Pasargadae*. *Pellini* says:

"There is a river known as *Sitioganus*. After sailing on it for seven days, one arrives in the town of *Pasargadae*. "*Pharsagida fortress*" is the home to the *Moqs*, and the tomb of *Cyrus the Great* is also located there."

*Plutarchus* states that coronation of Achaemenids kings was carried out at the capital of *Cyrus the Great*, that is, at *Pasargadae*. *Cuitus* [k] *Curtisu*, the historiographer who has recorded the history of *Alexander* of Macedonia, gives an elaborate account of "*Persagada*", in which the Garden-palace (or park) of *Cyrus the Great* was located. *Stephanus of Byzantium*, who lived in the 10<sup>th</sup> and 11<sup>th</sup> centuries AD, and has compiled a lexicon of ancient names and phrases based on sources of antiquity, writes:

"one of *Alexander's* companions has recorded the name of the town as "*Passargadai*" in his notes, and has translated as the 'Persian troops'."

As evident in various ancient stories, some have referred to it *Pasargadae*, while some others have linked it with the terms *Pars* or *Pers*. *Sir William Ouseley*, who visited Iran between the years 1810-1812 together with a British envoy, has mistakenly assumed the *Persepolis* the same as *Pasargadae* in his diary; however, he states that:

"the word '*Persepolis*' has been recorded wrongly as the original name was '*Parsa-garda*', meaning the seat of the Persians".

This is rooted in the fact that '*Gard*' [Garda] or '*Gerd*' mean '*The Seat*', and they are still commonly used in combinations such as *Lassgard*, *Firoozgard*, *Dashgard*, *Ramgard*, *Veiseh gard*, *Darab gard*, and *Farhad gard*. As a whole, we may be safe to conclude from the scholars' notes that:

1. The original name of the place has been something like “*Pasargada*”, and today’s common pronunciation is also correct. The name is not linked to *Pars*.<sup>50</sup>
2. The name of *Pasargadae* is originally derived from that of the *Persian* Royal Tribe, *Pasargadae*, meaning ‘*Garan Gorzan*’ (*pazara* in ancient Persians, or *pachara* in *Vedaic* mean *Heavy*, and *gada* in *Avestan* means *Mace*).
3. *English* scholar of *Persian* languages, *sir Harold Bailey* also mentions that the *Elamite* name of *Pasargadae* has originally been the *Persian Parsa-argada*, meaning ‘*a fortified or area, or fortification*’.<sup>51</sup>
4. The actual meaning of *Pasargadae* has been ‘*pas ercadresh*’, which means *behind Mount Ercader*, which is mentioned by *Darius* in his cuneiforms from *Behistun* (article 11 of Column 1).<sup>52</sup>

Elsewhere in an article named ‘*Persia* from the Invasion of *Alexander* to the Reign of the Sassanids’, Professor *Richard Frie* mentions the reasons why this place was decided to be the capital of the Achaemenids: pleasant climate, being located at the borders of *Mede* and *Persia*, and defeat of the *Median* king, *Astyages* by *Cyrus the Great* at this point.<sup>53</sup>

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<sup>50</sup> See: David, Stronach, "Excavation at Pasargadae", Pages: 160-162

<sup>51</sup> Shapur Shahbazi, A. (2000); "Comprehensive Guide of pasargadae, Naghsh-e Rostam & Pasargadae".

<sup>52</sup> Sami, Ali (1965); "The Oldest Imperial Capital of Iran", Rev: Norman Sharp, Ralph, Shiraz

King Darius states that:

"after a *Moq* named *Gaumata* rose from ‘*Pisi-udeh*’, he rose from a mountain named *Arkadris* on the 14<sup>th</sup> day from the month of *Vixen* (an month in the ancient *Persian* calendar, which corresponds the second and third months of winter). He deceived people, claiming that he was *Bardiya*, the son of *Cyrus* and the brother of *Cambyses*."

If it is assumed that while *Cambyses* was away, *Gaumata* rose from the *Pasargadae* in question, which was the headquarters of *Moqs*, and claimed to be the king, the whole story would correspond what *Darius* writes. Also, in his book, *Flandin* assumes the name to be a combination of *Fasā* and *Gard*, which or *Pasagard/Pasagard*.

<sup>53</sup> Zarei Kordshouli, Farhad (2006); "The Mid-road Hill and Some Discovered Achaemenid Sites around", Archives of Pasargadae Research Foundation.

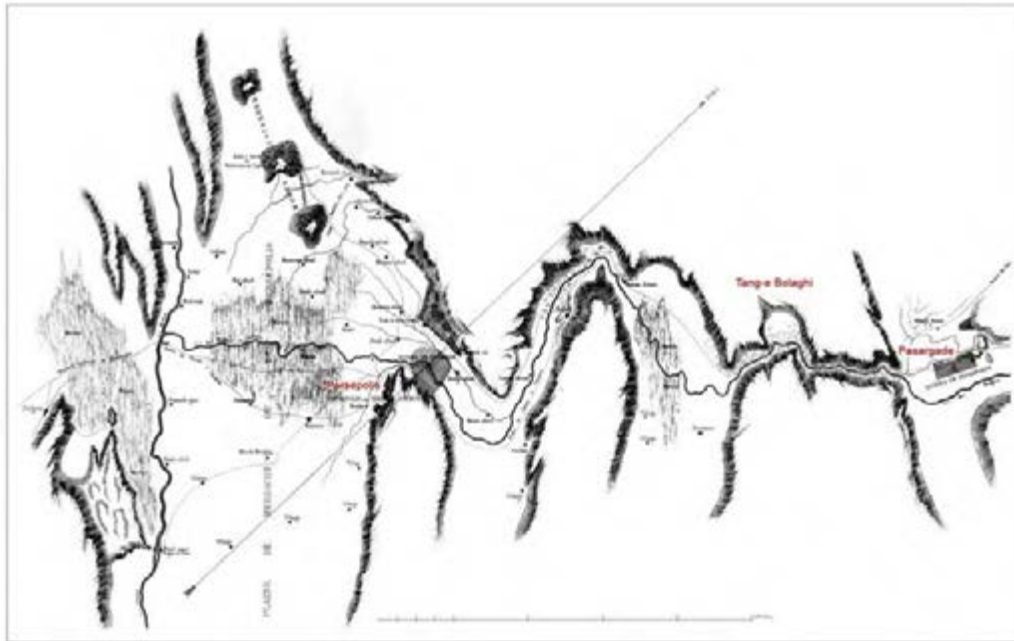


Fig. 2-327. Parse-Pasargadae area.  
Source: Flandin & Coste, 1841

### Historical periods of properties revered in the area:

The age of archeological relics found in this area varies from the middle Paleolithic (250,000 years ago to 40,000 years ago) to the contemporary Islamic era. The most significant monuments found inside the area of *Pasargadae* site (Buffer Zone 1) mainly includes the assets dating back to the time of *Cyrus the Great* (559-530 BC), such as *Cyrus's Tomb*, monuments within the area of the Royal garden (the Private Palace, Palace S, the Gate Palace (Palase R), Watercourses, pavilions A and B, and the *Royal Bridge*), relics of a tower *Zendan-e Soleyman (Prison of Solomon)* or the tomb of *Cambyses*, *Tell-e Takht* properties, and the Sacred Area. Also, there is a building known as *Mozaffari Caravanserai* located in the vicinity of these properties.

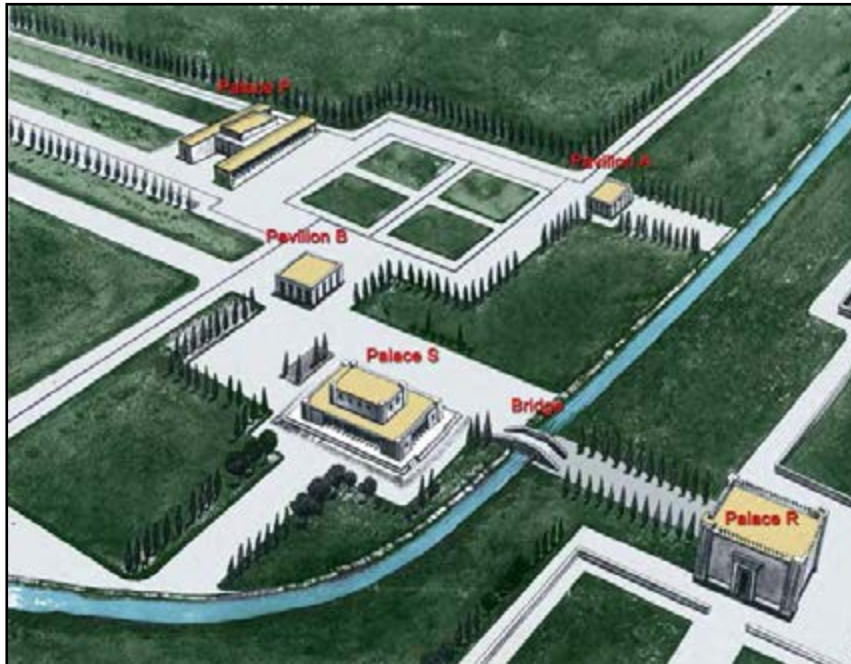


Fig. 2-328. Sketch of Royal Garden, Source: Splendors of Ancient Persia.

The identified periods of the properties in the surrounding area of *Pasargadae* (*Dasht-e Morghab*, *Sa'adat Shahr*, *Mashhad-e Morghab*, and *Tang-e Bolaghi*) by archeological studies are as follows:

1. Findings from the Middle Paleolithic Epoch: these relic are between 250000 to 40000 years of age, mainly including artifacts singly found such as stone tools made as hand axes, arrowheads, and scrapers of Brown Chert Stone (some of these items are so far found in the open site).
2. Findings from the Upper Paleolithic epoch: dating to 12000 to 8000 years BC, these items were found in caves and rock shelters in *Saadat Shahr plain*, *Mashhad-e Morghab*, and *Tang-e Bolaghi*. They include scrapers, micro blades, micro awls, and scraps of stone tools made of Obsidian, Silica, Chert stone, and other types of Intrusive Igneous Rocks.
3. The third era comprises the primeval villages with cultures such as *Meshki* and *Jeri* dating to the 6<sup>th</sup> millennium BC in mounds like *Rahmat Abad* and Site 73 at *Teng-e Bolaghi*. They are believed to be some of the oldest prehistoric civilizations in *Fars*. *Pre-Bakun* civilizations A and B from the 4<sup>th</sup> and 5<sup>th</sup> millenniums BC are also to be



mentioned here, from which several monuments are recovered in *Pasargadae* site (four of these sites in *Tang-e Bolaghi* have so far been excavated). Yet other prehistoric settlements of the area are *Lipuii*, *Shogha*, *Taimuran*, and *Banes* all dating to the 4<sup>th</sup> millennium BC to the 3<sup>rd</sup> millennium BC.

4. Achaemenids era: most of these properties are located in *Pasargadae* World Heritage site, *Sivand* mine in *Saadat Shahr*, and *Sang-e Kabood* mine located 1.5km to the west of *Abolverdi* village. There are also four earthen dams from the Achaemenids era in *Dasht-e Morghab* [*Morghab* plain], in the north of *Saadat Shahr*. Also, various mounds [Tell] and sites from the Achaemenids and post-Achaemenids eras are to be mentioned.<sup>54</sup>
5. Parthians era: the findings mainly include some types of burial such as cellar burials, megalithic burials, rock burials, and cave burials.
6. Sassanids era: these include some inscriptions such as *Tang-e khoshk*, and other Sassanids inscriptions in the north of *Tell-e Takht*. Other mounds and sites from this age have also been discovered in *Saadat Shahr*, *Tang-e Bolaghi*, and *Mashhad-e Morghab*.
7. Islamic period: they include vast sites, mounds, holy shrines, caravanserais, castles, villages, nomadic ricks of over 300 years age, and graveyards with exquisite gravestones of over 700 years age.<sup>55</sup>

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<sup>54</sup> See: Karami, Hamid Reza (2006); "The Achaemenian Dams (Tang-e Hana)", Archives of Pasargadae Research Foundation, Shiraz (Pasargadae).

<sup>55</sup> The Library of Research Center of ICHHTO, the executive department, Legal management, and International cooperations, September 2006

### ***Bagh -e Eram***

As mentioned by available documents and scripts, the famous *Bagh-e Eram* in Shiraz dates back to the Seljukids era and the 11<sup>th</sup> century AC.



Fig. 2-329. Pavilion of *Bagh-e Eram* in Qajars period (Sane' Mansour, In Memorial of Shiraz)

Appointed the governor of Fars by *Sultan Sanjar* the Seljukids (1117-1128 AC), *Atabak Qaracheh* established several gardens and buildings, and created monuments. Thus, establishment of *Bagh-e Eram* is told to have been by his order. *Ahmad Bin Ab-el Kheir Zarkoob Shirazi* writes about *Atabak Qaracheh* and his works, "... and another work carried out by the cause of his benevolence and lofty purpose in *Shiraz* is *Qaracheh* School built opposite *Qazi Fazari* School in the center of the city. He has also endowed it with some tracts of land, properties, and gardens."<sup>56</sup>

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<sup>56</sup> Zarkoob Shirazi, Abul Abas Ahmed (1931); "Shiraz Nameh".



Fig. 2-330. Pavilion of *Bagh-e Eram* in Qajars period (Sane' Mansour, In Memorial of Shiraz)



Fig. 2-331. The building at the east side of the Garden in Qajars period (Sane' mansour, In Memorial of Shiraz)

During the middle ages, attacks by nomads caused severe damages in civilized, prosperous areas of Iran. However, local tribes all around Iran were formed shortly afterwards, whose courts were centers for development of science and arts. One of these tribes was *Al-e Inju* [the *Inju* family], who had great influence in Shiraz in the 14<sup>th</sup> century AC, were in possession of vast tracts land, numerous properties, and several gardens, and are thus known as the *Injus*. *Shah Sheikh Abu Ishaq* used this garden as the seat of his government.

Contemporary with this family of rulers, *Hafez Shirazi* has an ode in praise of *Sheikh Abu Ishaq Inju*, in which he refers to a garden belonging to him:

"Like an angel he truly is, who is a messenger of heavens, Whose garden is superior to the *Paradise*."

The garden mentioned is supposed to be the same as what is now known as *Bagh-e Eram* in Shiraz. As the seat of government during the rule of *Shah Sheikh Abu Ishaq*, the golden times of *Bagh-e Eram* came to an end with his fall, and with the rise of *Amir Mubariz-al Din Mohammad Mozaffar* to power<sup>57</sup>.

As understood from documents about *Bagh-e Eram* under the Timurids, after *Tamerlane* chose to reside in *Qaracheh* garden in Shiraz, the climate of the city appealed to him inasmuch as after returning to *Samarkand*, he ordered that four gardens known as Shiraz Gardens were built there.

*Sharaf-al Din Ali Yazdi* writes in his *Zafar Nameh* in this regard that:

"Names that *Amir Tamerlane* chose for some of the gardens he built in Samarkand and around it are those of the gardens build earlier elsewhere in *Iran*, in particular in Shiraz... It can be understood that the prosperity and beauty of the magnificent city of Shiraz was so interesting for *Tamerlane*. As he was determined to make his capital city, Samarkand, more glorious and splendid than anywhere else in the world, he created gardens with the same name as those he had seen in *Shiraz*. Still known by their old names, there are the four gardens in Shiraz: the first one is *Takht-e Qaracheh* garden, the second, *Jahan Nama* garden, the third, *Delgosha* garden, and the fourth, *Bagh-e Eram*<sup>58</sup>".

This shows that *Bagh-e Eram* had been in its best state of opulence in the 14<sup>th</sup> century AC. There are not much found in the sources and documents of the *Safavids* era about the gardens in Shiraz. However, the travelers who have visited this city then found it pleasant and charming. The French explorer, *Chardin*, who visited *Shiraz* in 1674, states:

"The most splendid places in Shiraz are the public gardens, whose number comes to a total of twenty."<sup>59</sup>

<sup>57</sup> Qazvini, Mohammad., Qani, Qasem. (1941); "Divan-e Hafez".

<sup>58</sup> Yazdi, Sharaf-al Din Ali (1957); "Zafar Nameh".

<sup>59</sup> Chardin, Jean (1984); "A Journey to Persia".

However, *Bagh-e Eram* is not mentioned anywhere in these sources, or any other ones from this period.

After he entered *Shiraz* in the year 1730 AC, *Nader Shah* ordered that gardens around the city were repaired. Thus, he improved the administrative gardens as well. *Mirza Mohammad Kalantar* writes in his newspaper in this regard that, "These gardens were flourishing insomuch as, without exaggeration, there were three-thousand cedars, pine trees, and plane trees, not to mention fruiters."<sup>60</sup>

As so many gardens, including *Bagh-e Nazar*, *Bagh-e Jahan Nama*, and *Bagh-e Abul-Fath Khani*, were built or repaired under the Zands, it can be presumed that *Bagh-e Eram*, too, was possessed by the rulers and leaders from this dynasty, and was as well repaired in their reign, like several other properties and gardens in *Shiraz*.<sup>61</sup>

During the reign of the Qajars, heads of *Qashqai* tribe, who had been given the titles of *Eal Khan* and *Eal Beyg* [chiefs of the tribe] since the rule of *Fath Ali Shah*, used *Bagh-e Eram* as their seat of government in *Shiraz*. *Jani Khan*, the first to have been appointed a *Qashqai Eal Khan* in the year 1819 AC by *Fath Ali Shah*, was also the first to found the original garden.



Fig. 2-332. Situation of *Bagh-e Eram* in the map of *Shiraz*, drawn by *Chrikov* at 1812 AC (research center of *Shiraz University*)

<sup>60</sup> Emdad, Hassan (1960); "Shiraz: Now and the Past".

<sup>61</sup> Aryanpoor, Alireza (1986); "A Research of Historical Gardens of Iran and Shiraz".

There are two different accounts as to which of *Qashqai* chiefs built the original building. The author of *Fars Nameh* attributes it to *Jani Khan*:

"*Bagh-e Eram* is located to the northwest, about one mile from *Shiraz*. 870kg of wheat is consumed there. It has a glorious building. It was originally founded by the late *Jani Khan Qashqai*. Its walls and fortifications are made of clay."<sup>62</sup>

*Forsat-ol Dowleh Shirazi*, the author of *Asar-e Ajam* [the works of the Persians], who lived in the mid-Qajars reign, writes about the old building of the garden, "*Mohammad Qoli Khan IKhani* founded the original building..."<sup>63</sup>

As a whole, it seems that *Mohammad Qoli Khan* completed the edifice founded by his father, *Jani Khan*, rather than constructing a whole new one. During the rule of *Nasser-al Din Shah*, the *IKhani* heirs sold the garden to *Mirza Hassan Ali Khan Haj Nassir-ol Molk* by the order of *Mas'oud Mirza Zel-ol Sultan*.<sup>64</sup>

*Nassir-ol Molk Shirazi*, who built or repaired several shrines and gardens, also built the belvedere which now exists in *Bagh-e Eram*. He has preserved the original model of the older building (from the *IKhani* times) though. The edifice was not completed at the time of the death of the latter one on August 17, 1893. With the aid of *Haji Mohammad Hassan M'emar*, who, according to *Forsat-ol Dowleh Shirazi*, "was a perfect, unique master in architecture", *Nassi-ol Molk* completed the building. It is to be mentioned the owners of the garden have always resided there with their families, and the garden has consequently witnessed lavish feasts of the rulers and dignitaries of *Shiraz*.

Following the death of *Abol-Qasem Khan Nassir-ol Molk*, his son, *Abdullah Qavami*, took charge of the garden. That was until *Muhammad Nasser Khan Qashqai*, the son of *Sowlat-ol Dowleh*, purchased the garden for 240,000 Tuman.<sup>65</sup>

After being possessed by *IKhani* family for 75 years, the government put it into requisition under the rule of *Mo'tasem-ol Dowleh Farrokh* as the governor-general of Fars due to the

<sup>62</sup> Husseini Fasaee, Hassan (1988); "Farsnameh-e Naseri".

<sup>63</sup> Shirazi, Forsat-ol Dowleh (1933); "Asar-e Ajam, Mumbai".

<sup>64</sup> Zel-ol Sultan, Mas'oud Mirza (1984); "The Date of Mas'oudi's Death".

<sup>65</sup> Aryan poor, Alireza (1986); "A Research of Historical Gardens of Iran and Shiraz".

outstanding debts the owner owed to the government<sup>66</sup>. The government then turned it over to the University of *Shiraz*, who used it for long as a reception hall.

There used to be a village named *Kushk-e Eram* [*Eram* belvedere] to the southwest of the garden until the reign of the *Pahlavisds*, which was then demolished, and its land was added to *Bagh-e Eram*. Today, there is a rock garden in that location. There also existed another edifice in the northwest corner of the garden, which has been referred to as *Barband* in historical documents, and was changed into a rose garden under the *Pahlavisds*.

Thanks to the funds allocated by the Iranian Organization of Planning and Budget, the garden underwent overall repair works under the supervision of the then officials of the university in the years 1966-1971. A vast tract of land along *Eram Boulevard* and *Asyab se-tai* (*Triple Mill*) Boulevard was also attached to the garden. The garden was inscribed on the list of historical heritage on 12/5/1353 [August 3, 1974 AC].



Fig. 2-333. *Bagh-e Eram* in Shiraz, 1963 (Engineering Department of Shiraz University)

<sup>66</sup> Mo'tasem-ol Dowleh, Mehdi Farrokh (1968); "Political Memories of Farrokh".



Fig. 2-334. Pavilion of *Bagh-e Eram* in Qajars period (Sane' mansour, In Memorial of Shiraz)

After the Islamic Revolution in Iran, things have changed for better in the garden. Nowadays, it is open to not only experts, researchers, and university students, but also to the public. The garden was renewed and revived after the botanical research center was established there in the year 1979. In the year 2000 the comprehensive plan for redecorating and organizing of *Bagh-e Eram* was prepared by the research department of university of Shiraz. The plan has ever since improved the function of the garden as a botanical research field. Since the early 1360s [1980s] the central belvedere of the garden had been in use by the faculty of law. Taking into consideration the cultural, historical, and architectural values of the garden, however, faculty of law was moved to its current location within the campus of university of Shiraz as soon as its construction was completed in the year 2003. It was then when the repair work was commenced at the garden.



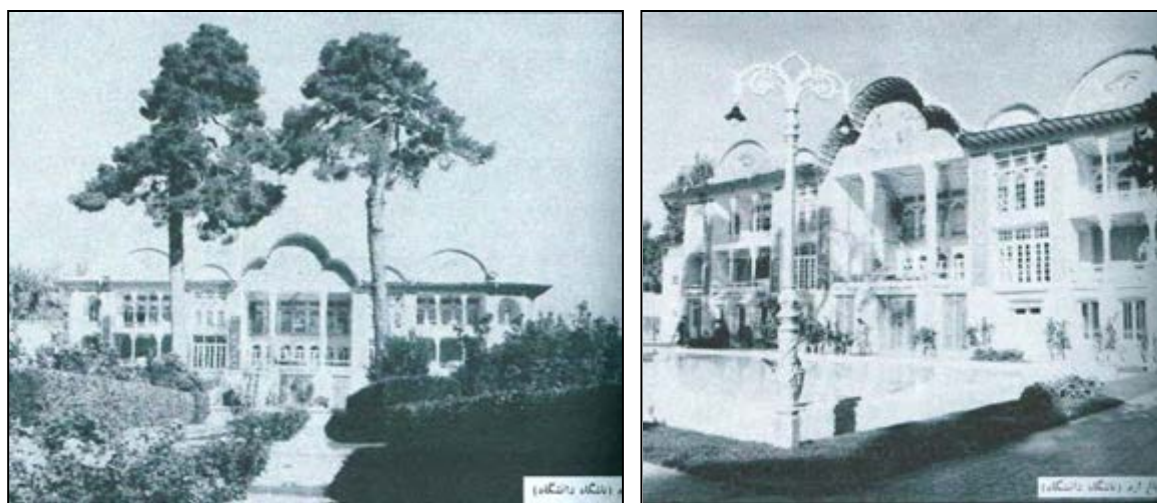


Fig.2-335. *Bagh-e Eram* as the club of Shiraz university, 1963 (Engineering Department of University of Shiraz)

In 2005, the research department of university of Shiraz located a credible research center under the name of Center for Botanical Researches in this garden.

Nowadays, *Begh-e Eram* is open to experts, researchers, and university students, tourists and the public.



Fig . 2-336. *Bagh-e Eram*, 2009 (ICHHTO of Shiraz)

***Bagh-e Chehel Sotun***

Vast halls of the historical palace of *Chehel Sotun* date back to the reign of *Shah Abas II*, the seventh of the Safavids kings<sup>67</sup>, which served as the place for his official receptions and his levees. Before the year 1327 AHS [1948] it was not possible to discuss the history and date of construction of *Chehel Sotun* as no such dates was known. Then, in that year, two lines of poetry were uncovered from under plaster on the front side of the reception hall of the palace: one of them is shorter, on pink backdrop, which attributes the construction of *Chehel Sotun* to *Shah Abas II*, and marks the end date of construction in the year 1057 AH [1674]. The other, longer one, is plaster-work on blue backdrop, and mentions the repair work under the rule of *Shah Sultan Hussein*. It is safe to conclude from the researches that *Shah Abas* the Great design and planned the great *Bagh-e Chehel Sotun*, and built a belvedere in the center with several smaller rooms around. Then, as *Shah Abas II* rose to power, the building was expanded by addition of halls and porches. It is currently known for sure that the 18-column hall and the Mirror Hall, as well as all the mirror decorations and paintings of the Royal Hall of *Chehel Sotun*, except for the two depicting the famous wars of *Chaldoran* and *Karnal* (which have been added after the reign of the Safavids), date back to the rule of *Shah Abas II*.

The reason why the palace has been given the name *Chehel Sotun* [meaning forty columns] is the considerable number of the columns: firstly, it is common in Iran that when one wants to mention bigness or infinity of a figure, uses number forty. Also, the pavilion happens to have twenty columns, whose reflection in the waters of the fountain in the front is, as some believe, one main reason for so calling the pavilion. Each of the twenty slender columns of the pavilion is a plane tree trunk covered with a film of painted wood. It had originally been decorated with pieces of mirror and stained glass. All walls were also covered with man-size mirrors, stained glass, and magnificent paintings and the doors were all ornamented by works of wood inlay and engraving. Measuring 110m by 16m, the pool in the front adds to the charm of the edifice. Splashing flow of water from the mouths of the four lions on the four

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<sup>67</sup> The author of *Qisass-ol Khaqani* [the Stories of *Khaqani*] says that *Shah Abas* crowned when he was 9 years, 8 months, and 28 days of age. His father had passed away on *Safar* 12, 1052 AH [May 12, 1642] in *Kashan*. There is poem about the day of his departure which confirms this date. *Shah Abas* lived for 34 years, 9 months, and 14 days, of which he was in power for 25 years and 15 days. He died in *Khosrow Abad-e Damqan* in *Rabi'athani*, 1077 [October, 1666]. They took his body to *Qom* on the 13<sup>th</sup>, and buried him on the 14<sup>th</sup> of *Jumad'al-Ula* [November], in the holy shrine of *Ma'soumeh*.

corners of the pool together with stone water jets along the narrow brook around the building made the sight of it even more pleasant. At noon time, exquisite drapery covered windows around the great hall, of which reels still remains. The splendid ceiling and paintings of the 18-Column hall and the mirror works of the ceiling are among unique examples of roofing in classic *Iranian* architecture. The paintings in the Royal Hall located to the west of the hall from right to left, and from the entrance depict a feast of *Shah Abas the Great*, his reception of *Mohammad Khan*, the Uzbek king, the war between *Shah Ismail I* and the *Ottoman* warriors at *Chaldoran* (added after the Safavids rule), and *Shah Tahmasb I*'s feats to receive *Homayun*, the king of India. Other paintings of the east side of the hall depict from right to left a scene from one of *Shah Abas the Great*'s wars with the Uzbeks, *Nader Shah Afshar*'s war against the *Hindus* at *Karnal* (added after the Safavids), and the feast of *Shah Abas II* for *Nader Mohammad Khan*, the king of Turkistan (this one faces the feast of *Shah Abas the Great* right on the opposite side). There are portraits of famous ambassadors and other renowned European natives who lived in the capital city of Iran at that time; however, the figures are not recognized at present. The portraits, from which only few remains, are the work of two *Netherlandian* painters name *Angel* and *Lokar*, who loved at *Shah Abas*' court. They were hired by the agents of the *Netherlandian* Company to cater to the great interest of *Shah Abas II* in painting<sup>68</sup>.



Fig . 2-337. Reception party of Shah Abas II (Fersco)(Fazelinejad, 2009)



Fig. 2-338 . Reception party of Shah Tahmasb I (Fersco)(Fazelinejad, 2009)

<sup>68</sup> Falsafi, Nasrollah (?); " A History of the Relations between Iran and Europe", Page: 104.

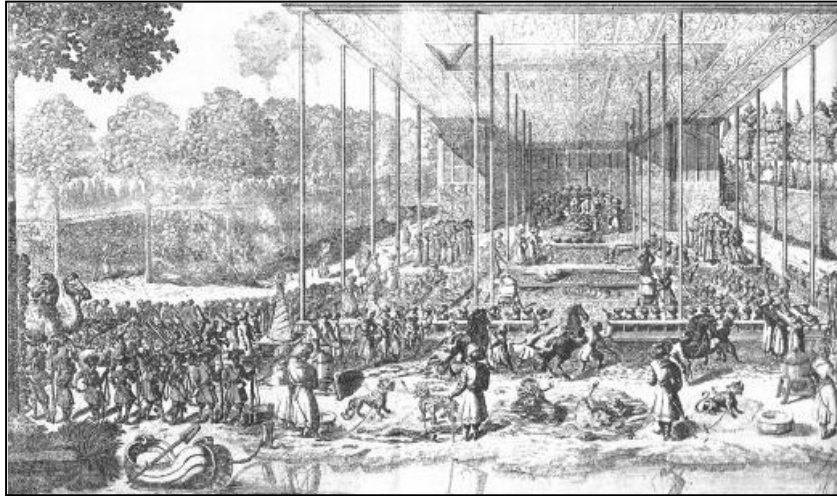


Fig.2- 339. Reception party in Ayineh Khaneh palace  
(Naghesh-e Jahan- Pars's consultant engineers, 2003)

There is yet another large room to the south of Mirror hall with eye-catching miniature works. One very magnificent piece of work in this hall is the plaster work of the window, which is listed among the masterpieces of the type.

Symmetrically, there is another room to the north of the Mirror Hall with great paintings and gilded ornaments of the ceiling as recovered from under the plaster layer.

The four column bases made in the shape of statues of human and lion are installed in the four corners of the pool. Also, two stone slabs carved into the shape of four lions line the two flower beds on either side of the pathway leading to the edifice. None belongs to the palace in question; rather, they are the only remainders of Safavids palaces known as *Sar Pooshideh* [roofed] and *Ayeneh Khaneh* [house of mirrors] of which no traces remain now.

While restoration work was being carried out in the year 1335 A HS [1957], three very interesting painting rooms were uncovered by the removal of plaster layers. In one of them only, there are large paintings of royal fetes with twelve pictures, a miniature painting of *Shah Abas* the Great with his special crown, other miniatures, paintings, and gilded floral patterns, all made by the renowned painter and artist of *Shah Abas*' time, *Reza Abasi*.

French painter, *Flanden*, who visited Iran under the rule of *Mohammad Shah* Qajars together with French archeologist and architect, *Pascal Coste*, has in the meantime visited *Isfahan* and the historical buildings there. He notes in this regard that:

"I am so glad to see this edifice intact and in perfect status. We should thank [God] that all the wars and riots have done no damages to it."

Thus, in the 13<sup>th</sup> century AH, after two whole centuries of being erected and used, the building had been in perfect shape, and no damages of any kind had been done to it. Now bare of any decoration, the columns were once covered with decorative colored, rhombus-shaped mirrored glasses. Paintings and miniatures of the lower part of the Royal pavilion, the two rooms on either side of the Mirror Terrace, small corner rooms of the palace and the rooms above them, the paintings of the two southern and western porch, and the miniatures which were later uncovered from under the layer of plaster gloriously draw all onlookers' attention, and represented examples of the charming artworks of Iranian artists. Some of the items were repaired, while some others were preserved in perfect shape.



Fig . 2-340. Battle of Shah Ismail in Chaldoran (Fazelinejad, 2009)

### **Historical inscriptions of *Chehel Sotun***

As mentioned in a historical inscription recovered from the front hall of the edifice in the year 1327 AHS [1949], construction of *Chehel Sotun* palace was concluded in the fifth year from the rule of *Shah Abas II*, that is in the year 1057 AH [1647]. The inscription under discussion comprises 12 hexagonal tablets of plaster-work white *Nasta'liq* writings on pink backdrop, each with one of the following hemistiches:

..... *Abas II*

Whose rule made even the old world so young.  
He constructed by the help of Allah  
One building which caused the nine skies to envy.  
It is so high skywards that [compared to its height]  
As if Pleiades is like a small piece of stone in a creek.  
Stars look like the flowers in such a garden [as Chehel Sotun park];  
The whole constellation is like a creek before it.  
[He] would gloriously rule there for years  
And the place would be all beings' kiblah for centuries.  
It is blessed, as its date of construction corresponds  
The most blessed of the dates ever. (1057 AH)

The author of *Abas Nameh*, *Mohammad Taher Vahid Qazvini*, who lived under the rule of *Shah Abas II*, writes under the title regarding the construction of *Chehel Sotun* that:

the gilded palace, which is the home to the religion, was repaired in the year 1057 AH. Poets and men of letters have composed various range of poems referring to this date; for instance, this hemistich has been made by the one very smart ruler [?] of Iran, which says, 'the most blessed building ever, 1057 [probably according to the Arabic numerical alphabets], and this same date is thus included in the inscriptions of that magnificent building' and the writer of these words also made the following poem with the date in it:

Hail thee! The glorious palace of the king of the Iranians,  
And the blessed house of delight and eternal mirth.  
Alas! It is not possible to describe it by words  
As words are never great enough to describe it.  
While there, It is as if you are not on Earth  
As even the skies are like the grounds for this place.  
Whatever interesting or wonderful is gathered all in here.  
Its fame has reached all around the world.

Like if the shadow of the building would end,

It was in India.

As this is the home to the king of the whole world,

The date of its construction corresponds to 'the home the eye of the world' [in *Arabic* numerical alphabets]<sup>69</sup>"

*Mohammad Ali Sa'eb Tabrizi Isfahani*, the royal poet [*Malek-ol Sho'ara*] of the rule of *Shah Abas II*, praises him in a long poem of 67 verses, which also includes admiring descriptions of *Chehel Sotun* as well as its date of construction which goes in Arabic numerical alphabets in the second hemistiches of the last few verses as follows:

"[He] planned a royal palace in Isfahan

So glorious that caused the envy of the palaces of Heavens.

As the construction of this

Blessed building finished in *Naqsh-e Jahan* by the aid of *Allah*,

*Sa'eb's* pen recorded the date of construction [as]

May this place by the *Mecca* of all kings.<sup>70</sup>"

The author of the book *Qisass-ol Khaqani* [the Stories of *Khaqani*] the construction of *Divan Khaneh* [*Chehel Sotun* palace] edifice was over on Monday, the second of *Rabi'-ol Aval* in the year 1056 AH [April 8, 1646] in the charming *Bagh-e Jahan Nama*. on this day, *Qush Beiki*, the envoy of *Abd-ol Aziz Khan*, the ruler of *Bukhara*, came to *Shah Abas II*, and presented his petition. *Russian* envoys also presented their gifts, and the Indian ambassador, *Jan Nesar Khan*, could obtain permission to travel to India.

Based on this note, it would be safe to conclude that the stately garden in which *Chehel Sotun* was built was formerly known as *Jahan Nama*, with a palace thus named in the furthest end of the west side of the garden to the north of *Chahar Bagh* street.

<sup>69</sup> Qazvini, Vahid, Taher, Mohammad (1950); "Abas Nameh", Page: 91.

<sup>70</sup> Poetry Works of Saeb Tabrizi, Page: 837.

**Additions and repair works under the rule of *Shah Sultan Hussein***

Obviously, the palace caught fire in a feast in the twelfth years of the rule of *Shah Sultan Hussein*, and consequently repair works were carried out there. The following verse mentions the event:

"One-thousand, one-hundred and eighteen years after *Hijrah* [the journey of *Prophet Mohammad* from *Mecca* to *Medina*]

A fire broke out at *Chehel Sotun*."

The other inscription uncovered at *Chehel Sotun* in the year 1327 AHS [1948] includes poems from a poet with the pen name *Najib*<sup>71</sup>, who describes the measures taken by *Shah Sultan Hussein* to repair and decorate the palace. The inscription comprises 30 verses written in white *Nasta'liq* on blue backdrop of plaster work. Each hemistich is written by *Mohammad Saleh Isfahani* in a small hexagonal tablet. A big part of the tablets has been destroyed. The remaining parts follow, however:

"Thank *Allah* that due to the fortunate nature of the king,

The whole place, from the ground to the ceiling was redecorated with gems.

The pleasant morning of *Eid* [*Nowrooz*] and the charm of dawn lights

Began to shine through *Jam-e Jahan Bin*.

By the order of the ruler of religion, *Sultan Hussein*,

Who rules the world like the Sun and the Moon all the time,

And is like the star of the morning of *Eid*;

And is so light-hearted and knowledgeable

With his power and art of war

He conquered the whole world.

He is so benevolent that

It is as if gold is worthless before his good deeds.

It is as if the Sun and the Moon worked together all the time

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<sup>71</sup> As the late *Abas Iqbal Ashtiani* reports about him, "He was one of the poets and scribes of the reign of *Shah Sultan Hussein*, who was the *Royal Poet*. He wrote a book named 'The History of *Keshik Khaneh*' in the year 1109 AH [1697]. I [the author] have seen the original book at *Gulistan Royal Library*, which is so exquisite." , *Yadegar Magazine*, issue 7, Page: 70.



So that such a magnificent building is constructed.

What a high building! So much as no word

Is big enough to describe its magnitude and glory.

..... shown in the world

As if the architect, who enjoys the support of Allah, add level to level in this building.

Is it from the *Paradise*?

As the heavens have come to prostrate before its porch.

*Allah* made the skies without any pillars

So that *Chehel Sotun* plays the pillar from the earth to the skies.

The sky was so proud of its jewel-like stars

Inlaid with gems.....

.....

..... became like a portico [?]

Its golden columns are like the candles at the order of *Prohet Khidr*,

And its grounds are like miracles from prophets such as *Moses* and *Khidr*.

There are forty columns like forty people

Who have sat in *Arbaein* ceremony to pray for him to live long and to rule long.

The gemmed column capitals are in such a shape as if

They have raised their hands toward the heavens for prayer.

The forty columns holding up the palace are

Like the forty daemons of Solomon who held his throne up.

Alexander traveled around the world,

But he never found some place like it, except for this one alone.

Bravo to the painter of the portraits

Who has painted the pictures so wisely'

With such tricks as if they are alive

.....  
.....

The music I hear is also not negligible  
As I hear the melodies at the dawn-time.  
The sparkling drops of water that comes out of its fountain like gems  
Make the sparkle of stars seem dim.  
The glitter of its four jeweled walls  
Is reflection of the royal glory forever.  
Though the king has  
Splendid residences in many cities,  
This heaven-like palace  
Is chosen by him as a home.  
My evil eyes are averted from it  
With the help of *Imam Ali*.  
When the construction of this magnificent building was over  
With the help of *Allah*,  
*Najib* recorded its date  
May this high royal hall be blessed."

(written by *Mohammad Saleh*) 1118 [AH/ 1706 AD]

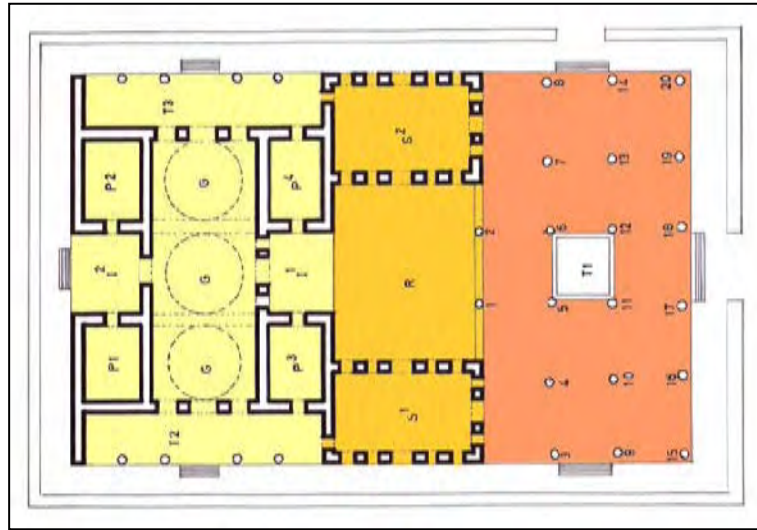


Fig. 2-341. Process of development *Chehel Sotun* palace  
(Naghesh-e-Jahan-Pars's consultant engineer, 2003)

### Inscriptions

There are two inscriptions in the alcove of *Chehel Sotun* palace and the entrance porch to the Royal Hall, and in the mirrored-glass decorations on the either side of the *Muqarnas* [honeycomb-shaped ornaments] of the ceiling. The inscriptions are written in black *Naskh* on a floral, illuminated background by *Shams-ed Din bin Mullah Mohammad Sa'id Jilani*, and are dated 1119 [1707]:

#### The inscription to the south of the alcove:

" نصر من اله و فتح قريب و بشرالمؤمنين رب انزلنى منزلا مباركا و  
انت خيرالمنزلين فان تولوا فقل حسبى اله كتبه العبد شمس الدين بن  
"ملا محمد سعيد الجيلانى فى 1119"

[verses from Koran plus the name of the calligrapher and the date]

#### The inscription to the north of the alcove:

" نصر من اله و فتح قريب و بشرالمؤمنين رب انزلنى منزلا مباركا و  
انت خيرالمنزلين و لا يؤده حفظهما و هو العلى العظيم كتبه العبد شمس  
"الدين بن ملا محمد سعيد الجيلانى"

[verses from Koran plus the name of the calligrapher]

**The signature of *Sadiq* in the bottom the painting from *Karnal* war:**

It is found after a poem in the bottom of the famous painting from the war between *Nader Shah* and *Nasser-al Din Shah* [and?] *Mohammad Shah* in *Karnal*:

"By the order of the king

The victorious *Mohammad Shah* Qajars

Enjoys by means of the paintbrush of *Sadiq* the Painter

The traces of glory of *Nader Shah Afshar*.

(Oh! Thou the truthfully fulfiller of the Promises)"



Fig. 2-342. *Chehel Sotun* palace at present (Fazelinejad, 2009)

### ***Bagh-e Fin***

This garden is of perfectly long history, which, as inferred from the neighboring civilizations, dates back to the pre-Islamic era. Thus, the development of this garden through the course of history can be categorized into six periods:

#### **Early Islamic period to the 10<sup>th</sup> century (the first period)**

Though solid documents from the earlier times of the garden are not available at present, it can be stated categorically that the water spring has always existed ever since the earliest days of the Islamic period. Two historical documents can evidence this issue. The oldest available historical source says in this regard that one of the first kings to live by the Fin spring happily and successfully was *Umr bin Leith Saffari* (256 AH). He conducted tests and experiences to identify the origins of the magically flowing water of the spring, but he did not succeed. After it, Construction of the garden and royal edifices of Fin is attributed to the *Buyyids*, and further structures have been added during the rule of the *Mongolian IlKhans*.

What mentioned above is all evidence of existence of a garden around *Fin Spring*, but that who built the original garden, and where, is yet to be considered further<sup>72</sup>. *Yaqut Hamawi's* description in *Mo'jam-ol Boldan*, and *Amin Ahmed Razi's* account of Kashan and *Fin* in *Tazkere-ye Haft Eqlim* [book of seven lands] both verify that Fin has been a well-planted area with prosperous gardens. However, these gardens, which were in use until the late 10<sup>th</sup> century AH, had not been located in the same place as today's *Bagh-e Shah* [king's garden]. This idea is based on two facts: firstly, following the devastating earthquake in the year 982 AH, in the early 11<sup>th</sup> century, *Shah Abas* ordered the garden to be moved and rebuilt 500 meters ahead, and closer to the source of *Fin Spring* (where *Bagh-e Fin* is currently located). Secondly, there is a garden in a 500-meter distance from today's *Bagh-e Fin*, which is known as *Bagh-e Kohneh* [the old garden], and is divided into two parts by *Fin* street. Though it calls for further research excavation at the site of *Bagh-e Kohneh* to prove this theory, initial researches show that the original *Bagh-e Fin* had been located at this point until the end of the 10<sup>th</sup> century, and where now is known as *Bagh-e Fin* was built at the current location from the beginning of the 11<sup>th</sup> century, and has undertaken several modifications and

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<sup>72</sup> Farrokh Yar, Hussein (1996); "A Paradise on the Margin of the Desert, Historical Development and Architecture of the Buildings of Fin Garden Ensemble".

alterations ever since. The site now known as *Bagh-e Fin* does not belong to the reign of the *Buyyids* or the *Ilkhans*, and dates back to the rule of *Shah Abas*, or shortly before that.

*Shah Ismail*, the founder of the Safavids dynasty, travelled to Kashan in the year 909 AH, at the dawn of the rule of the Safavids kings, and held a great coronation ceremony at the source of *Fin Spring*, and received a great number of ambassadors, dignitaries, and representatives of the residents of the town<sup>73</sup>. The *Fin* spring, which is referred to as the paradise-like area, seems to not only mean the source of the spring, but to also include an ensemble of gardens. Also, considering that Iranian gardens have also been entwined with the precious and scarce presence of water can show indicate that the source of *Fin* spring must have meant an area of the spring and the garden together.

*Shah Ismail Safavi*, during whose rule the area of *Fin* was of great importance, entered Kashan again in the year 925 AH to hold a levee at the source of *Fin* spring. His successor, *Shah Tahmasb* (931-948 AH) rose to power; no evidence of his visit to the area, the spring, or the garden of *Fin* is available<sup>74</sup>. Near the end of his reign, in the year 982 AH, the massive earthquake leveled the village of *Fin*. With major earthquakes that destroyed all buildings of the area, it seems unlikely that the original *Bagh-e Fin* (*Bagh-e Kohneh*) has survived.

### **From the early 11<sup>th</sup> century to the year 1335 AH (the second period)**

Development of *Bagh-e Fin* began with the rise of *Shah Abas*, when the old garden was abandoned for ever, and the current *Bagh-e Shah* was established. *Hassan Naraqi* writes in this regard:

"the great Safavids king, who had decorated all his land with numerous houses, since, the demolished buildings of *Bagh-e Kohneh* were not appropriate the pleasant spring of *Suleimaniyeh*, and to his own dignity. Thus, he ordered that a new palace was designed. This one was in a 500-meter distance from the old one, and closer to the spring. It was planned to be constructed in an area which stretched for 157m from east to west, and 142m from north to south. Walls surrounded the area, and four round-shaped, high towers were built in the four corners. A pathway and field for playing polo stick were planned and prepared in the area between the old and the new gardens. Outside the southern boundaries of the garden, in a distance of 1km, a very strong dam of stone and mortar was erected to hold back the floods from the garden; known as *Shah Abasi Dam*, even

<sup>73</sup> Farrokh Yar, Hussein (1996); "A Paradise on the Margin of the Desert, Historical Development and Architecture of the Buildings of *Fin* Garden Ensemble".

<sup>74</sup> Jeyhani, Hamid Reza, Omrani, Seyed Mohammad Ali (2007); "Bagh-e *Fin*".

now, 400 years after construction, the remainder of this dam still protects the village of Fin and *Bagh-e Shah* from the floods."

After *Shah Abas*, *Shah Safi*, the son of *Safi Mirza*, came to power, and reigned from the 1039 to 1052 AH. He, too, had great interest in *Bagh-e Fin*. The belvedere was built over the top of the middle pavilion during his rule.

"... and in the third stage, those perfectly skilled masters made the belvedere of wood and hand-forged iron on the height, so that those who sat in it could see the whole *Bagh-e Fin* and the city of Kashan, as well as all the surrounding as far as the salt lake and *Siyah Kooh*."

So much as *Shah Safi* liked Kashan and *Bagh-e Fin*, he spent some time there in the year 1049 AH.

He not only constructed the new *Bagh-e Shah*, but also established more buildings, and tried to further the prosperity of *Bagh-e Fin*. Construction of *Bagh-e Shah* at Fin is attributed to a number of individuals in various sources. *Abdul Rahim kalantar Zarrabi* states in his book, "History of Kashan", that:

"history has it that when *Shah Safi*, the Safavids king, decided to establish *Bagh-e Shah*, he constructed two *Howz khane* (a place that the water of the spring have been collected in it) so much the mighty as the spring was..."

Seemingly, *Shah Safi* was not the one who established *Bagh-e Shah*; rather, he only followed what his predecessors did. Elsewhere in the aforesaid book it is mentioned that: "...and as *Shah Abas* has constructed the *Bagh-e Shah* at *Fin* and its desirable edifice, or, in other words, *Shah Safi* was the one who established the place..."

After *Shah Safi*, *Shah Abas II* crowned in the year 1052 AH, at the age of 9, in *Dolat Khaneh* Mansion in Kashan.



Fig. 2-343. The sketch of pavilion of Safavids palace by Clement Debod  
Source: ICHHTO in Kashan



Fig.2-344. Safavids palace before demolition of pavilion  
Source: Jayhani,Omrani,2007, Bagh-e Fin

Until before this period, *Bagh-e Fin* has been referred to as *Fin Spring* in various sources and documents. However, *Bagh-e Fin* has come to the center of attention from the reign of *Shah Abas II* on, as has been frequently mentioned in various documents ever since. *Shah Suleiman* succeeded *Shah Abas II*, who is told to have been the person who established a platform around *Fin Spring*; this is why the spring is known as *Suleimaniyeh*

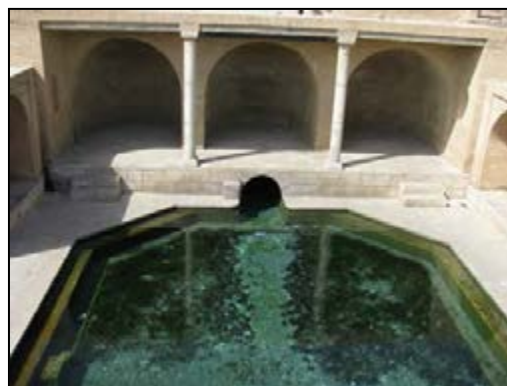
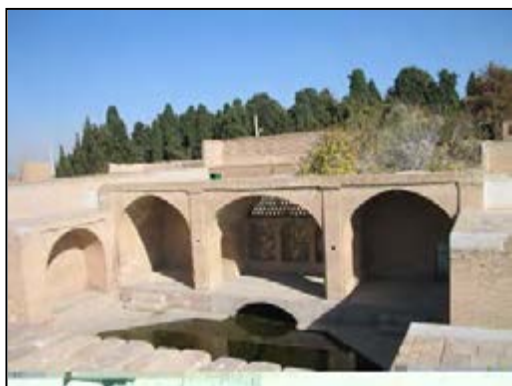
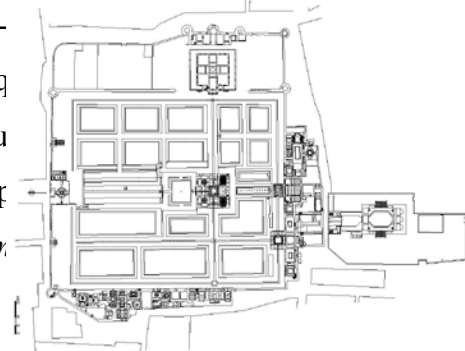


Fig. 2-345. Suleimaniyeh spring, Source: Khoshnood,2009



**From the end of the Safavids reign to the rule of the Zands (the third period)**

Bagh-  
earthq  
destru  
the up  
Karim



ds rulers, particularly *Karim Khan Zand* again. An  
whose epicenter was in Fin, and caused vast  
uding the irrigation system. A sanctum was built at  
le of *Karim Khan*. It is told to have been built as  
s' Counsel] avoided staying at *Bagh-e Shah* <sup>75</sup>.

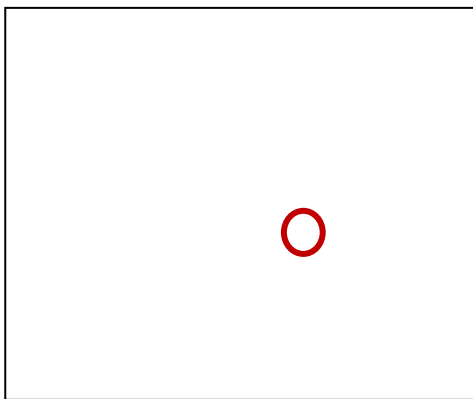


Fig.2- 346.The location of Karim Khan's sanctum, Source: ICHHTO in Kashan)



Fig. 2-347.Karim Khan's sanctum Source: Khoshnood,2009

**Early days of the Qajars (the fourth period)**

Though after the fall of *Karim Khan*, *Bagh-e Fin* was abandoned for a while, it was back in the focus of attention by the rise of *Fath Ali Shah*. As he was so keen on the magnificence of *Bagh-e Shah* and the splendor of Fin spring, he ordered *Haji Hussein Khan Sadr-e A'zam Isfahani*, the minister of Kashan, to restore the garden, and decorate it with magnificent elements along with the construction of the Royal School.

*Abdul Rahim kalantar Zarrabi* writes about the additions of the Qajars rule that:

"...*Fath Ali Shah Qajar*... constructed glorious edifices and splendid mansions in that garden, including *Howz khaneh* to the south, which is decorated with a variety of woodwork, masonry, and paintings, and has beautified the surroundings with pure perfection. *Mirza M'asoum Khavari* says:

<sup>75</sup> Farrokh Yar, Hussein (1996); "A Paradise on the Margin of the Desert, Historical Development and Architecture of the Buildings of Fin Garden Ensemble".

Its north side is soul-dispensing as Jesus was, And its clear water is like Saint Mary in purity  
Elsewhere, [there are] the adjacent buildings, and a pathway with curbs of turquoise tiles stretching to its front to the end of the garden, and the minor bath, and the *Hashti* (entrance), and the façade of the garden, from which point, outside the garden, begins a wide pathway, which is cleared and paved with stones, and goes along for about 500 meters to the entrance to the old *Bagh-e Shah* ..."

Other buildings of the garden to be mentioned are the major stable and the *Sanctum of Nezam-ol Dawleh* in the northwest of the garden. In his book, *Caravanserais and Small Buildings En Route* [original title: "Les Caravanserais Routiers Safavids"], *Maxim Siroux* provides a map, and dates it to the 9<sup>th</sup> century AD. Considering the structure of these two buildings and the way they are connected, it can be gathered that they might be built in the same period.

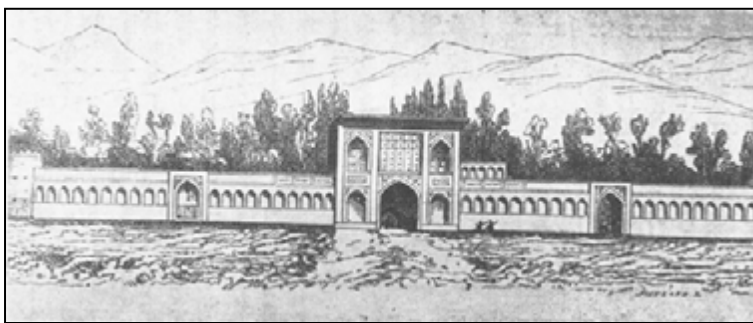


Fig. 2-348. The sketch of the façade of the garden by Flandern  
Source: ICHHTO in Kashan

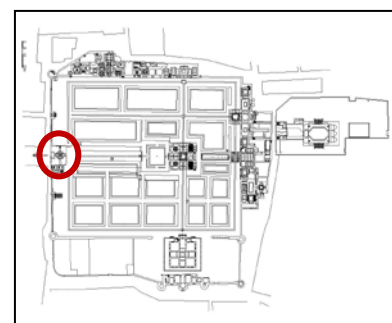


Fig.2-349. The entrance of Bagh-e Fin  
Source: ICHHTO in Kashan

In the year 1827, *Ali Mohammad Khan Nezam-ol Dawleh Sadr Isfahani*, *Fath Ali Shah* 's son-in-law, was appointed as the ruler of Kashan, and, after obtaining *Shah* 's permission, constructed a new edifice outside the northern boundaries of the garden, which comprised a vast courtyard and flowerbeds, with rooms and several mansions along the four sides, later known as the *Sanctum of Nezam-ol Dawleh*.



Fig. 2-350. The Sanctum of Nezam-ol Dowleh,  
Source: Base of Historical Garden in Isfahan

**From the final days of the rule of *Fath Ali Shah* to the year 1935 (the fifth period)**

The prosperous times of *Bagh-e Fin* came to an end with the death of *Fath Ali Shah* . In the year 1258 AH, after the end of *Herat*, *Mohammad Shah* headed for Kashan, and stayed at *Bagh-e Shah* for a few days. It is reported that the alcove and the *Howze Joosh* in front of it were built in the reign of *Mohammad Shah*. Taking into consideration the integrity of the alcove and the ensemble from *Fath Ali Shah*'s rule adjacent to it, however, it seems that the whole ensemble dates back from the same times, or was merely completed during the time of *Mohammad Shah* .



Fig.2- 351. The Qajars's alcove  
Source: Khoshnood, 2009



Fig. 2-352. Howz-e Joosh  
Source: Khoshnood, 2009

*Nasser-al Din Shah* (1264-1313 AH) was keen on the gardens of his capital city, Tehran, who visited *Bagh-e Fin* only once, and that was on his way back from Isfahan to Tehran, together with *Mirza Taqi Khan Amir Kabir*. After *Amir Kabir* was disposed, he was restrained at *Bagh-e Fin* for 40 days, after which he was murdered by the king's order.



Fig. 2-353. Amir Kabir  
Source: ICHHTO in Kashan



Fig. 2-354. The place that Amir Kabir was murdered in.  
Source: Khoshnood, 2009

Several princes were appointed as the rulers of Kashan during the reign of *Qajars*. In the year 1282 AH, *Farrokh Khan Amin-ol Dawleh Ghaffari* resided in *Bagh-e Fin*, and issued orders regarding the repair of damages inflicted throughout years of being neglected. In the summer of 1286 AH, Prince *Jala-al Din Ehtesham-ol Molk* ordered that the damages were fixed and repaired, and the buildings of the garden were efficiently restored and decorated in that same year. After both inside and outside of the edifice were repaired, he also ordered a *Hashti* of the same width as that of the façade to be built at the inner entrance of the manor. Two large stone platforms were as well constructed for those who wanted to enter the garden and had to wait to do so. The pair were decorated deftly with a variety of decorative elements, including stalactite works, and gold and cobalt blue. There are documents showing that the garden and its income had been left to some people such as *Mirza Abd-ol Hussein Khan Malek-ol Movarrekhin*, the son of *Mirza Hedayat-ollah Khan* (as the publisher of newspapers such as *Vatan*, *Shah anShah i*, *Ayene-ye Eyb Nama*, *Azad*, and *Safhe-ye Ruzegar*, he is known to be

among the pioneering founders of journalism in *Iran*). The aforesaid document shows that apparently he was the custodian of the garden.

As the down of the rule of Qajars neared, and at the dawn of constitution movement in Iran, chaos broke out in Kashan. In the meantime, *Nayeb Hussein Kashi*, one of the insurgents of the area, committed crimes of robbery, murder, and looting together with his sons. Known as *Nayebian*, the insurgents used *Bagh-e Fin* with its great towers and fortifications as their base, which caused serious damages to the garden. They also looted valuable objects of the garden as well as its construction material (like doors, windows, marble stones, tiles, and fountains), and caused severe damages. There was a 4-story, wooden building over the Safavi palace, the top of which overlooked the surrounding scenery. It was destroyed at this time together with the very clean bath in the left side of the garden. Though in the year 1237 AH, the ruling authorities brought the chaos to an end, the severity of damages inflicted was to the extent that the garden was nearly sold as unutilized land.

### **The sixth period**

Then, in the second decade of the present century, the garden and its values were recognized. Thus, it was legally registered, and its custodianship was given to the then Ministry of Culture. Finally, on *Azar* 15, 1314 AHS, *Bagh-e Fin* was inscribed on the list of cultural and historical monuments of Iran under the number 238. The ICHHTO has ever since had restoration and preservation of the garden on agenda, and the garden has turned to be one of the major tourist attractions of central Iran.

historical periods at <i>Bagh-e Fin</i>		
First period	The ancient history of the spring and the old <i>Bagh-e Shah</i>	Before the rule of <i>Shah Abas</i> to 999 AH (1587 AD)
Second period	Formation of the garden at the new location	From the rule of <i>Shah Abas I</i> to the end of the Safavids reign (996-1135 AH/ 1587-1722 AD)
Third period	Several earthquakes, constant repairs	From the fall of the Safavids to the early days of <i>Fath Ali Shah</i> (1135-1212 AH/ 1722-1797 AD)
Fourth period	Revival	During the rule of <i>Fath Ali Shah</i> (1212-1250 AH/ 1797-1834 AD)
Fifth period	Abandonment and demolition	From the end of <i>Fath Ali Shah</i> 's rule to 1314 AHS (1250 AH-1314 AHS/ 1834-1935)
Sixth period	The garden as a historical document	Since 1314 AHS (1935)

### ***Bagh -e Abas Abad***

#### **A word on the town of Ashraf**

The oldest available document in which the town of *Ashraf* has been mentioned is the *Alam Ara-ye Abasi* [the history of the world of *Shah Abas*] by *Iskandar Beyg Munhshi*. Having access to the government archive, *Iskandar Beyg* had eye witnessed numerous events based on which he wrote the history of the reign of *Shah Abas I* in the year 1039 AH [1629], and named it *Alam Ara-ye Abasi*. In the historiography of the year 1021 AH [1612], *Munshi* describes the measures taken by *Shah* to develop and expand the then-village of *Ashraf*, and names him as the original founder and architect of the edifices of the town of *Ashraf*. He also notes that the spot had appealed to *Shah Abas* owing to its very noticeable natural features. He states that *Shah Abas* had employed the most talented masters to build the edifices, houses, bazaars, and public baths, though he never names any of these masters in person. There is also no information regarding the sources from which the construction material for such buildings came. He concludes that the village developed due to presence of *Shah Abas*, as he set a model for other people such as the rich, the dignitaries, and the administrative workers in building houses of their own in that town, which eventually paved the way for its further development.

#### **Construction of the magnificent village of *Ashraf* in the paradise-like province of Mazandaran**

*Pietro Della Valle*, the Italian traveler and explorer who had entered Iran through *Qasr-e Shirin* in the year 1026 AH/ 1627, provides a greatly detailed account of *Ashraf*. Having traveled to *Iran* to see *Shah Abas* and to serve him in his wars against the Ottomans, he met *Shah* in the town of *Ashraf*. He notes that *Shah* made efforts to add to the population of the town, so he made various tribes to move and settle there. He has missed to name any of such tribes. However, it is inferred from the indications that *Shah Abas* added the Georgians and Christian Armenians to the local population who were mainly from Mazandaran, or were *Turkmens*. *Pietro* adds that *Shah Abas* has had great development plans for the town, among which construction of bazaar, caravanserai, plaza, and public bath were listed:

"*Ashraf* is located to the east of *Farah Abad*. As the mud was drying down, the roads were indeed in good shape; however, our journey (from *Farah Abad* to *Ashraf*) progressed slowly... after

passing by a village of mostly Turkmen and Mazandarani residents, we finally arrived in *Ashraf*, which is located about 12.5km from the sea, at a beautiful plain, and is overlooked by several hills. The town is not enclosed, and there is nothing more than the royal castle, which is still half-constructed with its gardens, and one lane lined by several stores, and some houses made without a visible order, and the vast tracts of land surrounding them. The town is of a considerable population as *Shah* has made scores of people migrate to it. Particularly, when he stays in the town, there is an even bigger population living in the town, and more buildings are constructed. Thus, whenever he is in *Farah Abad*, he stays in *Ashraf* for the bigger part of the winter. There are several fresh water springs in this area. There are also so many trees there as if the houses are lost in the trees. Writing these notes, I doubted whether to refer to *Ashraf* as a town in the jungle, or as a jungle urbanized due to human settlement." <sup>76</sup>

Continuing, *Pitiro Della Valle* emphatically states that:

"As he had been told by the Minister of Mazandaran on his visit to the town of *Ashraf*, *Shah Abas* had decided spots for construction of caravanserai, plaza, public bath, and other places, and had made constant efforts to add up to the population of the town by making people of other areas migrate into it." <sup>77</sup>

*Della Valle* then goes on describing one of the gardens he had seen during his visit to the town of *Ashraf*:

"They showed me to this garden (*Bagh-e Haramsara* [harem garden], or *Bagh-e Khalvat* [the private garden] which was meant to be home to the wives of *Shah*), and I found it an area of numerous flowers, scented grass, and various fruits, particularly oranges and lemons. As the area has mild climate and plenty of water, such trees grow well there. Water flowed in many gutters of straight direction along the middle of the stone-paved lanes." <sup>78</sup>

*Thomas Herbert*, the British traveler and explorer, explains the *Bagh-e Ashraf* as:

"The building was surrounded by a garden in which roses and tulips were expertly decorated in a grove of plane trees, fig trees, and chestnut trees." <sup>79</sup>

*Jean Chardin*, the French traveler, who traveled to Iran during the rule of *Shah Abas II* (between the years 1052-1077 AH/ 1643-1667 AD) and *Shah Suleiman* (between 1077-1105

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<sup>76</sup> Della Valle, Pietro (2006); "Itinerary", Page:171.

<sup>77</sup> Ibid , Page:171.

<sup>78</sup> Ibid , Page:211.

<sup>79</sup> Herbert, Sir Thomas (1627-1629); "Travel in Persia", Pages:154-155 .



AH/ 1667-1694), and spent several years in *Iran*, provides a description of the *Persian Gardens* in the reign of the Safavids, stating:

"Persian Gardens are mostly formed of a main pathway which divides the garden into two parts, and is made in the shape of a straight line with rows of plants along either side, and two sidewalks with flower beds, fruit trees, and rose bushes lining the spaces among them. This is all the ornamentation Iranians have in their gardens." <sup>80</sup>

### ***Palace- Bagh-e Abas Abad***

*Abas Abad* was constructed in the year 1613 AD, at the same time as the town of *Ashraf*. The historian *Iskandar Beyg Munshi*, who was contemporary with *Shah Abas*, and has thus eye-witnessed numerous historical events, has mentioned this structure in his *Alam Ara-ye Abasi*, which is the oldest document about *Bagh-e Abas Abad*. Describing the events of the year 1613, as he gives an account of construction of the town of *Ashraf*, he mentions the gardens made at the same time. The historiographer notes in this regard the water supplied from the high mountains to the gardens of the town. Here, he has most probably referred to the supply from *Gol- Bagh* [?] area, or distribution of water by clay water pipes into *Abas Abad*:

"in this very year (which is the year one-thousand and twenty-one, 26 years after coronation of His Majesty), the diligent architect gradually followed his attentive wishes about the town of *Ashraf*, and [constructed] gardens with buildings and piscine rooms with perfect magnificence, and supplied water flows from the high mountains; owing to extraordinary techniques and fine construction, water... flows from all fountains in the ponds." <sup>81</sup>

In the article eleven of the first book from *Alam Ara-ye Abasi*, the historian gives an account of construction of *Farah Abad* in Mazandaran, and also refers to a garden built over a highland, and comprises pavilions, porches, lakes, water fountains, baths, and flower beds. Though *Iskandar Beyg* does not directly mention a place known as *Abas Abad*, it can be inferred from what he states about the lake that he meant *Palace- Bagh-e Abas Abad*:

"[there are] decorated chambers in *Ashraf*, together with a garden, a water spring, and piscine room constructed on top of the aforesaid garden [?], in which, by the use of magically outstanding techniques, water flows [from a fountain] into the silver pool. Other gardens, baths, and buildings

<sup>80</sup> Chadin, Jean (2000); "Itinerary" , Page:874.

<sup>81</sup> Munshi, Iskandar Beyk (2004); "The History of Alam Ara-ye Abasi", Pages: 855-856.

are located about 3km from the aforementioned village (*Ashraf*), and are known as (*Abas Abad*) gardens. They are located in a high place, and comprise pavilions, porches, a lake, fountains, baths, and a paradise-like flower bed, which are astonishingly beautiful." <sup>82</sup>

Giving an account of the events of the year 1036 AH/ 1627, he explicitly names *Bagh-e Abas Abad*. He reports the presence of *Shah Abas* in this garden in that year, saying:

"His Majesty showed his great mercy to people, and [stayed] in charming village of *Ashraf* in paradise-like Mazandaran, which was not pleasant at all earlier this year (due to *Shah Abas*' being sick), and in the gardens there, particularly in *Abas Abad*, which was by no means desirable. He ordered the arrangements of *Nowrooz* ceremony, and set off for hunting with the circle of his elect elites..." <sup>83</sup>

*Palace - Bagh-e Abas Abad* was so favorable in the eyes of *Shah Abas* due to its breathtaking scenery such as the view of the lake in the south side, and the outlook of the town of *Ashraf* and *Mian Kaleh Bay* in the north, and also due to presence of all means of refreshment and recreation, sculptures, and beautiful paintings in the pavilions and edifices. It was a perfect example of Iranian garden-palaces. Sir Thomas Herbert writes in this regard that:

"Besides, *Bagh-e Abas (Abas Abad)*, which is located no further than 2 miles from *Ashraf*, is unique because of its country house (summer house). It also stands out gardens of similar nature due to its outlook, paintings, bath, water supply facilities, and a hunting-ground with all means of recreation. That is why Shah, who builds cities out of small villages wherever he stays for long, is charmed by *Abas Abad (Bagh-e Abas)*." <sup>84</sup>

This *Palace- Bagh* existing there, *Shah Abas* underwent all the hardships of the trip from Isfahan so to rich his favorite recreation spot.

It is obviously known that such a large place calls for constant caretaking, and thus, for presence of great numbers of servants all year round. So, there most probably have been places which served as the residence of these people as well as those who worked in the garden.

The account given by *Pietro Della Valle*, who traveled to Iran during the rule of *Shah Abas* and met him in *Ashraf*, indicates that all royal palaces in *Iran* were so much alike except for

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<sup>82</sup> Munshi, Iskandar Beyk (2004); "The History of Alam Ara-ye Abasi", Page: 1111.

<sup>83</sup> Ibid, Page: 1072.

<sup>84</sup> Herbert, Sir Thomas (1627-1629); "Travel in Persia", Pages: 152 .

the size and the number of rooms. This can provide an image of *Abas Abad* palace as well. *Della Valle* depicts one of the *Palaces- Bagh-e Ashraf*:

"we moved towards the royal palace, whose main entrance faces a long, pleasant pathway. After reaching this door, we dismounted from the horses, but we did not enter the inside prairie; instead, we turned right, and reached a plaza overlooking the palace, in which the entrance to the garden is located. No one is allowed to pass through this door unless on foot.... There was a large tree in the end of the plaza guarded by soldiers.... [Then] we entered the garden. There was a small courtyard after the first entrance, which seemed more or less like a pantry.... Then, we walked through yet another door over which was a small false arch, and we finally entered the garden. Square-shaped, it is located in the end of the plain, at the foot of forested hills in back of the garden. [He] had ordered numerous houses to be built right on top of these very hills, which are a part of the buildings of the garden. Located in the centre of the garden, the audience hall is a structure whose length is three times its width. The front side is open, but on the back and also on the two sides, the structure is elevated from the ground by two steps. The open side is along the length of the structure, and faces the entrance northwards. There is a long stone-paved pathway in front of the building with a brook in the middle, into which water constantly flows from the pool in front of the audience hall. The pathway stretches further after the audience hall, and reaches the end of the garden and the hill foots.... Inside, the rooms were covered with exquisite, precious carpets."<sup>85</sup>

The explanation given by the Italian traveler clearly depicts the structure of the garden-palaces of the town of *Ashraf*: a main entrance, some minor doors, and several entrances with false arches, the plaza, the pantry, the garden, several residential buildings, the audience hall, the stone-paved pathways, and precious carpets.

Accompanied by *Saro Taqi*, the minister of Mazandaran, *Pitro* paid another longer visit to the same garden-palace at which he had earlier met *Shah Abas* after Shah had left *Ashraf*:

"After the entrance, through which one has to walk, there is a large, beautiful prairie at which people stand to see *Shah Abas*, for he never holds a levee at the hall or the rooms of the royal edifice; he always sees people at public plazas either standing on foot, or a cheval.... There is a hidden garden on the hilltop for the wives of *Shah*, which is surrounded by thick walls with towers and fortifications. They showed me toward this garden, and I found it full of pleasantly scented flowers and grass, and

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<sup>85</sup> Della Valle, Pietro (2006); "Itinerary" , Pages:173-174.

various fruits, particularly orange and lemon.... Water flows only in several straight, similar-looking brooks in the middle of the stone-paved pathways. In the center of the garden, where the pathways intersect, there is an octagonal structure of several stories with elevated edges [?] and numerous rooms decorated with paintings and illumination works.... After leaving the harem garden, and walking down the steps of the hill, we headed for the royal edifice, which is built across from the hill, right to the right of the entrance and the prairie, on a flat land. There was a small flower bed after the first door from which a pathway led to the large garden of the audience hall. In the middle of the pathway, there is a large door with a fountain atop, which splashes water as high as the roof of the edifice. There are also several small pools and fountains inside the building and on the porches. Though not very large, the edifice comprises several large rooms decorated with paintings and precious illumination works.... There are many porches around the houses covered with curtains and straw-plaits. The rooms have many doors. In one room, there are two large mirrors on either side of the entrance door and the window on all four walls, which reflect each other's images in a way one thinks there are many rooms behind them. There are also somehow hidden rooms known as sanctums, and are covered with precious *qalam kar* mats.... I saw some painters painting in small frames in this unfinished edifice."<sup>86</sup>

*Della Valle* notes some other details in his precise account, such as paintings and beautiful, precious illuminations works, fountains and piscine rooms, towers and fortifications, thick walls for protection of garden-palaces, and brooks flowing in the middle of the pathways, which are supposed to have existed in other *Palaces-Bagh-e Ashraf* as well. It is understood from the account given by *Sir Thomas Herbert* that *Palace- Bagh-e Abas Abad* was different from other garden-palaces only because of its facilities; otherwise, it was just like all other gardens as for the buildings, edifices, and halls. This is because the one thing that has been noticed and mentioned by *Thomas Herbert* was its amenities and natural scenery, which made *Abas Abad* better than other royal garden-palaces in his eyes.

*Abas Abad* was still in use by *Shah Safi* (1038-1052 AH/ 1629-1643), and *Shah Abas II* (1052-1077 AH/ 1643-1667), the immediate successors of *Shah Abas I*, as they held great feats there. This is evident in the descriptions *Palace- Bagh-e Abas Abad* that historians of the time have in their books, and also in their accounts of how the garden was prepared for such events. For instance, *Mohammad Taher vahid Qazvini*, the historiographer of the time of *Shah Abas II* and the author of the book *Abas Nameh*, or the Account of 22-year Life of *Shah*

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<sup>86</sup> Della Valle, Pietro (2006); "Itinerary" , Pages:210-212.

*Abas II*, gives a perfectly detailed account of how the feasts and ceremonies of the *Nowrooz* of the year 1063 AH [1653 AD] was held in *Bagh-e Abas Abad*.

The author of "*Abas Nameh*" first mentions the advantage of *Abas Abad* over other *Palace-Bagh-e Ashraf* (which lies in the natural scenery and amenities of *Abas Abad*, as mentioned by *Thomas Herbert*), and writes:

"The paradise-like *Bagh-e Abas Abad* overlooks the sea through *Ashraf* (in the north), and the large lake and the charming flowers (in the south), and is thus superior to other gardens [?] [of *Ashraf*], they ordered that the heavenly place was decorated with lights [for the feasts]."

He then continues to explain the *Nowrooz* ceremonies and feasts of the year 1063 AH [1653 AD] under the title the "Story of illumination of *Abas Abad* lake":

"Thus His Majesty ordered that the lake of *Bagh-e Abas Abad* in *Ashraf*, which is like a part of heaven, or a garden from the gardens of paradise, was illuminated. Shortly afterwards, the servants erected the wooden frames in circular patterns. Then, His Majesty entered the hall in the center of the lake together with his entourage, and ordered the torches to be lit. The red wine also blazed the hearts of the company. The light from the torches brought to mind the stars in the sky, and their reflection in the water reflected the movement of the planets."<sup>87</sup>



Fig. 2-355. View from Lake

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<sup>87</sup> Qazvini, Vahid, T.M (1950); "*Abas Nameh*", Page: 157.

The description of *Palace- Bagh-e Abas Abad* given by *Qazvini* indicates a few points: firstly, the garden had, as mentioned earlier, charming natural scenery of which the Safavids era historiographer has talked so admiringly. He was enchanted by the beauty of the garden insomuch as he has referred to it as "a part of heaven, or a garden from the gardens of paradise". Secondly, important ceremonies such as *Nowrooz* feasts were held in this garden during the rule of immediate successors of *Shah Abas I*, which makes sense considering the facilities and amenities of the garden. Besides, there had been a belvedere in the center of the lake in which the kings, the dignitaries, and the rich sat on special occasions, and enjoyed the unique, magnificent outlook.

After *Shah Suleiman* (1077-1105 AH/ 1667-1694 AD) and *Shah Sultan Hussein* (1105-1135 AH/ 1694-1723) came into power, *Palace- Bagh-e Abas Abad* and the two areas of *Farah Abad* and *Ashraf* fell into oblivion. Dominance of the clerics over the administrative issues of the country (at the time of this king, *Mullah Mohammad Baqer Majlesi*, also known as *Mulla Bashi* was of great political and religious power and influence) led the last of Safavids kings into an approach which resulted in domination of religious spirits over the already suffering country. Such atmosphere, paired with numerous political and military problems the country was facing during the last years of the rule of the Safavids, and accompanied by the Safavids kings being limited in the court and the harem, and losing their care and interest in administrative issues, ultimately made them prefer to enjoy themselves merely at the court and the harem, and to prefer not to undergo the hardship of traveling to, and visiting other parts of Iran such as *Mazandaran*, *Farah Abad*, and *Ashraf*.

These kings faced many revolts during their rule, such as the rebellion of the Turkmens at *Dar-ol Marz*, *Mazandaran*, which occurred under *Shah Sultan Hussein*. In his *Dastur-e Shahryaran*, *Mohammad Ibrahim Nassiri* gives an account of the events of the year 1109 AH [1698], and includes under the title dealing with the rebellions of Turkmens and from *Yamoot* and *Goklan* near *Astar Abad* that:

"Those plundering Turks pillaged the country, and looted the belongings of Muslims and non-Muslims equally. They killed a lot from the old, esteemed tribes and families, and enslaved the elites and the secluded women. In *Mazandaran*, *Farah Abad* and its buildings and edifices were

also plundered. So was the land of *Daro Khabushan* [?] up to the town of *Ashraf* and *Sari*. . . . How desolate is the land through which passes the enemy!"<sup>88</sup>

As mentioned by the historiographer of the reign of *Shah Sultan Hussein*, the Turkmens from *Yamoot* and *Goklan* looted the buildings and gardens of *Mazandaran*, specially in the two rich areas of *Farah Abad* and *Ashraf*, which marked the beginning of the downfall of the *Ashraf*, and, consequently, *Palace- Bagh-e Abas Abad*.

The civil wars of the Afghan rulers in Iran, those at the time of rise of *Nader Shah* to power, and then, fights over choosing his successor, as well as the fights of the *Zands* reign and early *Qajars* rule also accelerated the devastation of *Ashraf* and the magnificent *Palace- Bagh-e Abas Abad*.

Natural elements on the other hand joined forces with human causes to destroy *Abas Abad*. Being ignored during the last years of the rule of the *Safavids* and under the following rulers, the place soon turned into thick, wild woods in which lived wild animals. All had remained during the reign of *Qajars* from *Palace- Bagh-e Abas Abad* was ruins, as none of the travelers visiting the town of *Ashraf*, or even those passing by the former location of the garden, mention it. The Russian scientist, *Melkonof*, who visited the town of *Ashraf* in the year 1861, mentions some gardens of this town among which *Abas Abad* is not listed.<sup>89</sup>

In his travel journal of *Mazandaran*, *Nasser-al Din Shah* also mentions destruction of *Abas Abad* under the rule of the *Qajars*:

"we headed for *Abas Abad*, which is built by *Shah Abas* in the middle of the jungle. There is a lake, some buildings, and also a dam. . . . there, we found an old stone wall in the middle of the jungle. Then, there was a lake around which woods had grown. There was a small island [in the center of the lake. *Shah Abas* had built [the garden and the buildings] but they are now in ruins."

<sup>90</sup>

The British consul in *Rasht*, *L. H. Rabino*, who had visited *Ashraf* in the last years of the rule of *Qajars*, has never mentioned the place even though he has moved upwards through the road to *Ali Teppah* village, and has passed by the garden-palace:

<sup>88</sup>Nassiri, Mohammad Ibrahim (1995); "Dastur-e Shahryaran", Page: 247.

<sup>89</sup>Melkonof, Ezoddoleh (1985); "Iran- Russian", Page: 144 .

<sup>90</sup>Nasser-al Din Shah Qajars, "Travel Journal of Mazandaran".

"we moved ahead along *Shah Abasi* road. After passing over an old bridge, which ran over a deep floodway, we reached a hill. There was a village named *Al- Teppéh* one mile outside the town, which had a population of 40 families. The next village was *Saroo*, which had a court."<sup>91</sup> 83

The British consul states that the attacks of Turkmens, together with the fights of Afghan rulers and the Zands army entering the Mazandaran were the causes of destruction of *Ashraf* and its buildings and gardens, including the *Palace- Bagh-e Abas Abad*.

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<sup>91</sup>Rabino, L . H (1987); "Mazandaran & Astar Abad", Pages: 107-108.



***Bagh-e Shahzadeh [Prince's garden] Mahan***

*Bagh-e Shahzadeh* was founded and constructed by *Abd-ol Hamid Mirza Nasser-al Dawleh Farman Farma* during the reign of Qajars. He was the ruler of *Kerman* and *Baluchistan* for 11 years, and died in 1930 <sup>92</sup>.



Fig. 2-356 .Abd-ol Hamid Mirza Nasser-al Dowleh Farman Farma (Base of *Bagh-e Shahzadeh*)

The building was left unfinished after his death. The following is stated about the end of construction work at *Bagh-e Shahzadeh*:

"... as if the mason who was building it heard about the death of *Nasser-al Dawleh*, and stuffed the last bin of plaster he had at hand over the façade of *Bagh-e Shahzadeh*, and came down of the scaffold; the construction of the edifice was thus left unfinished..."

<sup>92</sup> Vaziri, Ahmad Ali Khan (1954); "A History of Kerman (Salariyeh)", Page: 629.

In later times, the garden was divided between two individuals, one named *Sarkar Aqa Abul Qassem Khan*, and the other, who was one of the pair of *Zoroastrian* landowners of *Kerman*<sup>93</sup>.

Despite its magnificence and considerable natural and artificial features, *Bagh-e Shahzadeh* was long abandoned due to political and social changes, and inflicted considerable damages.



Fig. 2-357. *Bagh-e Shahzadeh* in Pahlavis period (20<sup>th</sup> century)  
(Base of Bagh-e Shahzadeh)

The main edifice and the open area of the garden suffered the damages. Also, the landscaping and main elements of the garden (such as the gutters, pools, sidewalks, and the floral landscape of trees, patches, and flowerbeds) did not remain intact.

Repair works were carried out at *Bagh-e Shahzadeh* once in 1959, and again, after the earthquake of 1981, which caused severe damages.

In the year 1975, the garden was purchased by the Bureau of Arts and Culture, and was inscribed on the list of National Heritage. Overall repair works was carried out in the garden in 1991, when the International Congress of *Khaju-ye Kermani* was held there.

<sup>93</sup> Vaziri, Ahmad Ali Khan (1954); "A History of Kerman (Salariyeh)", Pages: 629-634.

### ***Bagh-e Dolat Abad***

*Bagh-e Dolat Abad* was established in the year 1160 AH, under the rule of the Zands, by *Mohammad Taqi Khan*, known as the Great ruler, the progenitor of the *Khans* of Yazd. The ruler first had a *Qanat* of about 65km length dug, which was given the same name as the garden. It comprised 5 narrower canals which flowed from Mehriz heights, which irrigated the fields of Mehriz, drove some water mills, and after a distance of about 50km, reached the villages around Yazd such as *Abshahi* and *Khorram Shah*, and in the end, flowed into *Bagh-e Dolat Abad* and irrigated it. The garden gradually fell into ruin after the death of its founder in the year 1213 AH, and despite all the following repair works, it never went back to its days of prosperity.

*Bagh-e Dolat Abad* was once repaired in the reign of Qajars, under the rule of Prince *Mohammad Vali Mirza*, the son of *Fath Ali Shah*, who was the ruler of Yazd in the year 1326. The repair work was carried out by *Abd-ol Reza Khan Amir Mo'ayyed*.<sup>94</sup> The author of *Jame'e Jafari* writes in this regard:

"... Due to constant passage of passers-by... in particular, the stay and passage of the warriors and military officers who travelled to Kerman, the edifice fell into ruin, and was devastated day after day. When they wanted to start the repair works, the devastation had gone so far as there was no trace of the earlier glory left. All the pathways leading from every single gate to the garden were... extremely dry. So, *Amir Mo'ayyed* took charge of restoration and repair works of the garden..."<sup>95</sup>

Yet again in the reign of Prince *Soltan Hossein Mirza*, known as *Jalal-ol Dawleh* (the eldest son of *Mas'oud Mirza*, known as *Zell-ol Sultan*, the fourth son of *Nasser-al Din Shah*/ 1358 AH) the garden was repaired.

The latest restoration works were carried out between the years 1354-1361 AHS by the technical office for conservation of historical monuments in Yazd, through which the tall wind-tower of the summer palace, which had half collapsed, was restored together with some other parts.

<sup>94</sup> - Documentation of Yazd gardens: Cultural Heritage and Tourism Base of Yazd Province.

<sup>95</sup> - Naeemi, Mohammad Jafar-e; "Jam-e Jafari", Council of National Heritage.



Fig. 2-358. Reconstructing Badgir, 1970s



Fig.2-359. Badgir, 2009

The Iranian Ministry of Arts and Culture rented the garden from the Organization of Endowment, and gave it to the office for preservation of archeological monuments. After that, by the order of the late *Ayatollah Sadooqi*, and the Iranian Guardian Council, the management of the garden and its endowed property was given back to *Mirza Mohammad Ali Mo'ez-ol Dini*, the sixth successor of the late great *Mohammad Taqi Khan*.

According to the custodian of the garden, 6 towers originally existed in the fortifications surrounding the garden, of which only one remains today. Located in the south side, it was restored and repaired in the year 1360 AH.<sup>96</sup>

According to the plan of the garden and to the eye witnesses, the endowed properties around the garden have not been through considerable changes or additions. Only the areas to the north side of the garden have been altered by the construction of *Dolat Abad* street, which has separated them from the garden.

<sup>96</sup> - Documentation of Yazd gardens: Cultural Heritage and Tourism Base of Yazd Province.



Fig.2- 360. Watching tower, 2009

### ***Bagh-e Pahlavanpur***

Covering an area of almost 5 hectares, *Bagh-e Pahlavanpur* historical is located in *Mazvir Abad (Bidak)*<sup>97</sup>, to the southeast of the town of Mehriz, 35 km from Yazd. As understood from historical documents about Yazd, Mehriz has been considered as an area of healthy climate in *Yazd*, which is also evident from areas such as *Gharbal Biz Spring* and *Madvar*. The 9<sup>th</sup> century [AH/ 15<sup>th</sup> century AD], *Mostawfi Bafqi* says:

"*Madvar* is a place with a lot of trees; in spring, plenty of flowers, grass, and copses grow there in the plains and the mountains."<sup>98</sup>

So, it can be presumed that the area has once been covered with numerous gardens and farms.

Dating back to the reign of the Qajars, *Pahlavanpur* property was originally established by a man named *Hassan Mullah Reza*, who, in turn, gave it as gift to his son-in-law, *Ali Pahlevan*. The garden had 16 water shares [in local dialect called *Haq Abeh* (the right to use water quota), each lasting for 10 to 11 minutes. Thus, the water from *Hassan Abad Qanat* flowed in the garden every 12 days.



Fig. 2-361. Pahlavanpur-  
Ali, owner of the garden

It was built at a period in which Iran was distancing itself from its traditional past and entering the modern times. Thus the garden can be considered as one of those built according

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<sup>97</sup> Being located on the course of two *Qanats*, *Mazvir Abad* was once of a great appeal to the rich of *Yazd* due to its pleasant climates. That is why construction of magnificent buildings called *Kushk* or *Sharbat Khaneh* in the center of the gardens of the area was so popularly common at the time.

<sup>98</sup> Mostowfi Bafqi, Vol. 1, Page: 39.

to the architectural styles of the fourteenth century solar AH as well as the early twentieth century procedures. In addition, beside the garden is an inter-gardens alleyway (*Kooch-eBagh*) which is regarded as the side gate of *Bagh-e Pahlavanpur* and at different seasons denotes the contrast between the dry climate of desert and *Bagh-e Pahlavanpur* in Mehriz town. As mentioned earlier, the garden originally comprised two separate gardens: one with winter house, caretaker's house, tower, and stable, which belonged to *Mullah Alireza*, and the other one, which was bare of any buildings, belonged to *Mr. Pahlevanpur*.



Fig. 2-362. Tower in *Bagh-e Pahlavanpur*



Fig. 2-363. Inter-gardens alleyway (*Kooch-eBagh*)

### Archeological excavations

Such excavations at *Bagh-e Pahlavanpur* have been carried out by *Mr. Dinyar Shahrzadi* in the year 1380 AHS [2001], aiming to find the foundations of the bath and the kitchen<sup>99</sup>.

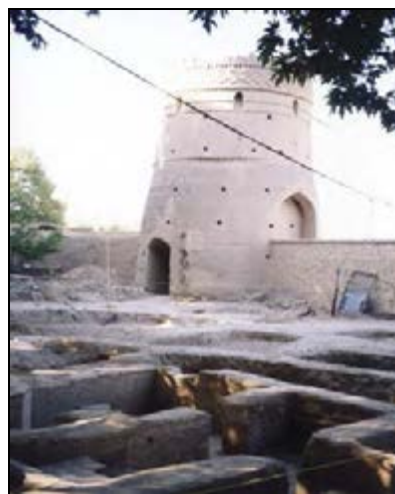


Fig.2-364.Hammam and kitchen

<sup>99</sup> Documentation of Gardens of Yazd, ICHHTO of Yazd

### ***Bagh-e Akbariyeh***

The complex comprises two structures of which the construction of the older one is attributed to *Heshmat-ol Dowleh*, the father of *Mohammad Ibrahim Showkat-ol Molk*, and it dates back to the late Zands rule and early Qajars. The other edifice of the ensemble is the ceremonies buildings, which has been constructed by *Showkat-ol Molk* (1300-1364 AH). Originally used as the family house of *Showkat-ol Molk*, the garden began to function as a governmental building after attachment of some parts. This is the reason why the locals know it as "*Kalate-ye Sarkar Amir*" [roughly meaning the land or fortress of the ruler].



Fig. 2-365. View of main building (rear court)

After *Ibrahim Khan* passed away, his son, *Asadollah Alam*- the prime minister at the *Pahlavisds'* court- used it as his residence for certain times of the year. Finally, he endowed the Holy Shrine of *Imam Reza (Astan-e Qods-e Razavi)* with the property. After the *Islamic* revolution in Iran, the Iranian Police took possession of the ensemble, and used it until the year 1991. Finally, the property was left to be held by the Iranian Cultural Heritage, Handicrafts, and Tourism Organization (ICHHTO).

Considering the development of the ensemble proves that the oldest part, that is, the one attributed to *Heshmat-ol Dowleh*, is located in the eastern end of the garden. This edifice comprises the Master's Residence [*Arbab Neshin*], and service areas such as the stable and the residence of the servants and workers.



This part is not built along the central axis of the garden, which confirms drastic alterations in the garden in later periods.

Constructed by *Heshmat-ol Dowleh's* son, *Showkat-ol Molk*, the second part of the ensemble is built to the west of the older structure, and includes the magnificent middle belvedere. The axis of the garden and the internal links of the ensemble show that, the way it looks today, *Bagh-e Akbariyeh* belongs to this period. The central building, constructed under the rule of Qajars in two levels, served basically as a place for ceremonies and receptions. Some other areas such as the square-shaped pool and the platform in its centre, and the service area to the south side of the ensemble are also built during this same period. Westward expansion of the garden in the reign of the Pahlavis resulted in construction of new areas along the central edifice, which are currently used as offices.



Fig. 2-366. Office building, 2009

### **3. a. Criteria under which inscription is proposed and justification for inscription under these criteria**

#### **Preface**

The nomination of the Persian Garden includes nine selected gardens (*Bagh*), representing different types of gardens related to different climates in Iran. They provide evidence of the development of the Persian Garden from the Achaemenids period until the present. This is a serial nomination that is proposed to meet the criteria I, II, III, IV, and VI. The nominated gardens represent a selection from a much larger numbers of the existing gardens (the selection criteria are given in the comparative studies).

The Persian Garden is a unique artistic creation where art is manifested in association and combination with nature. This manifestation is even more prominent considering that, over the course of ages, it has been associated with significant cultural indicators such as poetry, philosophy, painting, music, calligraphy, symbolism, semeiology, sculpture, and carpet design. In this regard, the Persian Garden has specific qualities, where it differs from other gardens in the world.

The Persian Garden reflects the interaction of man and nature, taken to a level of near-perfection. The nominated gardens illustrate the trends of garden development in a variety of cultural, political, and social aspects ever since the Achaemenids reign. They also respond to the challenges of the extreme climatic and geographic conditions in the rather dry and harsh nature of the country.

The gardens and their contexts have evolved paving the way for an outstanding manifestation of human creativity in perfect harmony with nature, being also wonderfully tinted by local features. Such perfectly designed combination is the fruit of wise and intelligent application of various fields of knowledge including the social and biological sciences. The Persian Garden has thus resulted in an enjoyable and harmonious representation of philosophy, aesthetics, architecture, poetry, music, painting, sculpture, various engineering and water-management techniques, and environmental sciences.

Indeed, the Persian Garden is one of the most creative cultural, artistic and scientific manifestations of the Iranian culture. It has combined great experience in the creative

management of natural resources and landscaping based on the learning and experience transmitted by people over time.

The idea of the garden has also been reflected in different aspects of Iranian approaches to life, including the creative design of household objects, residential, public and administrative buildings and facilities in cities and villages. Diverse cultural and natural aspects have been combined so as to demonstrate significant reflections of Iranian traditions, cultures, and belief systems. The miniature paintings, inscriptions, carpets, patterns and motifs, choices of colours, forms and architectural styles, choices of flowers and trees, the overall layout of the gardens, the employment of specific techniques, and the design of water supplies have also resulted in the development of a sustainable technology and an intelligent use of natural resources.<sup>1</sup>



Fig. 3-1. Aerial view of Ancient Garden of Pasargadae

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<sup>1</sup> Articles of the First Conference on Persian Garden, Tehran, Iran Contemporary Art Museum, 2009.

**Criterion (I): “Represent a masterpiece of human creative genius”**

The Persian Garden represents a masterpiece of human creative genius, as has been testified by historians and explorers who have travelled to Iran over the course of centuries. The prominent historian and Iranologist, *Arthur Upham Pope* mentions in this regard:

"Iranians love of trees, water, and flowers has gradually turned into an eternal love which has manifested itself in Persian Gardens." and "Every Garden was a Paradise. The Persian Garden was Eden Eternal. So essential is the garden to the Persian conception of life that both the first reality and ultimate bliss have been interpreted in garden terms. The Persian, enlightened and practiced Epicurean, sees the beauty of every blossom and loves every nuance of color, but to him a garden means more than that" (Arthur Upham Pope, 1938-9).

The oldest evidence of the Persian Garden has been discovered in Pasargadae, in the royal ensemble created by *Cyrus the Great*, in 529 BC. It can be presumed that *Cyrus the Great* had employed various features from the arts, architecture, and garden design of the earlier civilizations such as those of Egypt, Mesopotamia, Elam (Western Iran), and *Sindh Valley* (in today's Pakistan). These would have included the use of right angles and geometrical proportions. What matters is the creative combination of all these elements in the development and design of the Persian Garden with its specific identity and characteristics. This innovative character is clearly evident in the design of the garden and palace layout of Pasargadae. It can be considered one of founding moments of the Persian spirit, which continued to evolve through centuries based on accumulated know how and values. Furthermore, the intelligent and careful engineering and water-management system, the appropriate choice of plants and their locations in the layout, all bear witness to *Cyrus'* interests in nature and can be considered a testimony to the unique features of the Persian Garden not recorded elsewhere in the world.

The principal idea of the Persian Garden design, known as *Chahar Bagh* (Four Gardens) is associated with concept of the four gardens of creation and four rivers of the garden of Paradise (Eden). This is mentioned in the Holy *Quran* and the book of genesis. The Persian Garden has in fact been considered the symbolic representation of heaven on earth in the form of an earthly paradise.

The constantly evolving creative design and building of Persian Gardens in the very heart of the arid lands of Iran is a unique representation of human genius. Due to lack of water in

these areas, it has been necessary to supply this through the creation of a sophisticated, man-made water supply system, based on underground water canals, *Qanats*. With the development of the garden, also the horticulture comes into existence, and the art and architecture are manifest of reaching certain perfection. The Persian Garden has also been influential in the development of cities and villages in the desert areas.

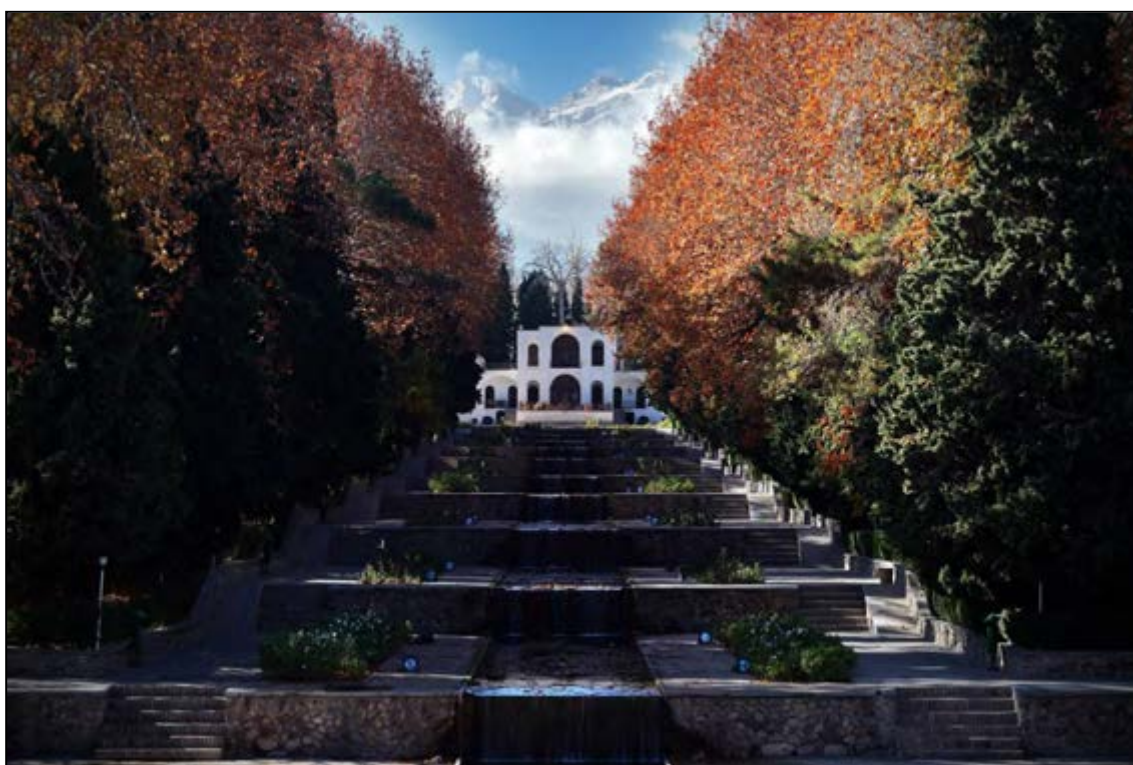


Fig .3-2. *Bagh-e Shahzadeh Mahan*

**Criterion (II): “Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on development in architecture or technology, monumental arts, town-planning or landscape design.”**

The Persian Garden exhibits an important interchange of human values, having been the principal reference for the development of garden design in Iran, India, Pakistan, and Afghanistan, e.g. Mogul Gardens, *Taj Mahal* in *Agra*, *Humayun’s Tomb* in *Delhi*, *Shalimar* in *Kashmir* and *Lahore*, *Akbar* and *Nishat* in *Kashmir*, *Shahdara* in *Lahore*, *Babur* and *Wafa* Gardens in *Afghanistan*, gardens in the Arab countries, as well as in Europe, e.g. *Alhambra* in *Spain*, *Italian Renaissance* and *Baroque Gardens*. It is particularly the geometry and symmetry of the architecture together with the complex water management system that seem to have influenced design in all these gardens. The same axial geometry and typical *Chahar Bagh* layout are evident even in the historic garden of *Sigiriya*, *Sri Lanka* (6<sup>th</sup> century AD). The word *Paradise* entered European languages from the Persian root word "*Pardis*" which was the name of a beautiful garden enclosed the within walls.

The introduction of the *Chahar Bagh* design to lands of humid climate proves the flexibility and universality of this model. The Persian Garden has long been known as a prototype of geometrical gardens in the world, and it has in turn been influenced by European Gardens in the use of architectural ornaments, choice of flowers, and installation of statues, particularly under the reign of the *Qajars* in the 19<sup>th</sup> century.

**Criterion (III): to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living, or which has disappeared:**

The Persian Garden bears exceptional and even unique testimony to the cultural traditions that have evolved in *Iran* and the *Middle East* over some two and a half millennia. During its evolution, the manifestation of the Persian Garden has been evident in the various cultural and social aspects of the society, such as the private residences, palaces and public buildings, as well as ensembles associated with benevolent or religious institutions, including tomb areas, park layouts, palace gardens, *Meidans*, etc.

This cultural tradition has contributed to refining and enriching other associated cultural elements such as poetry, music, miniature, arts, architecture, and urban design. Architectural

ornaments in gardens have developed becoming a prelude to other forms of architecture. Traditional house design concept is such as to always allow views to the garden. The *Iwan* (Porch), the central space in a traditional house, was arranged in the garden axis.

Garden tradition is even reflected in the development of urban design, considering that the main street of a city often became a garden avenue, as was the case especially in the *Chahar Bagh* Avenue in Isfahan, dating to the Safavids period (17<sup>th</sup> century). Such avenues link various urban features such as bazaars, *Meidans*, palaces, mosques, and fortifications, making these environments agreeable as places for living.

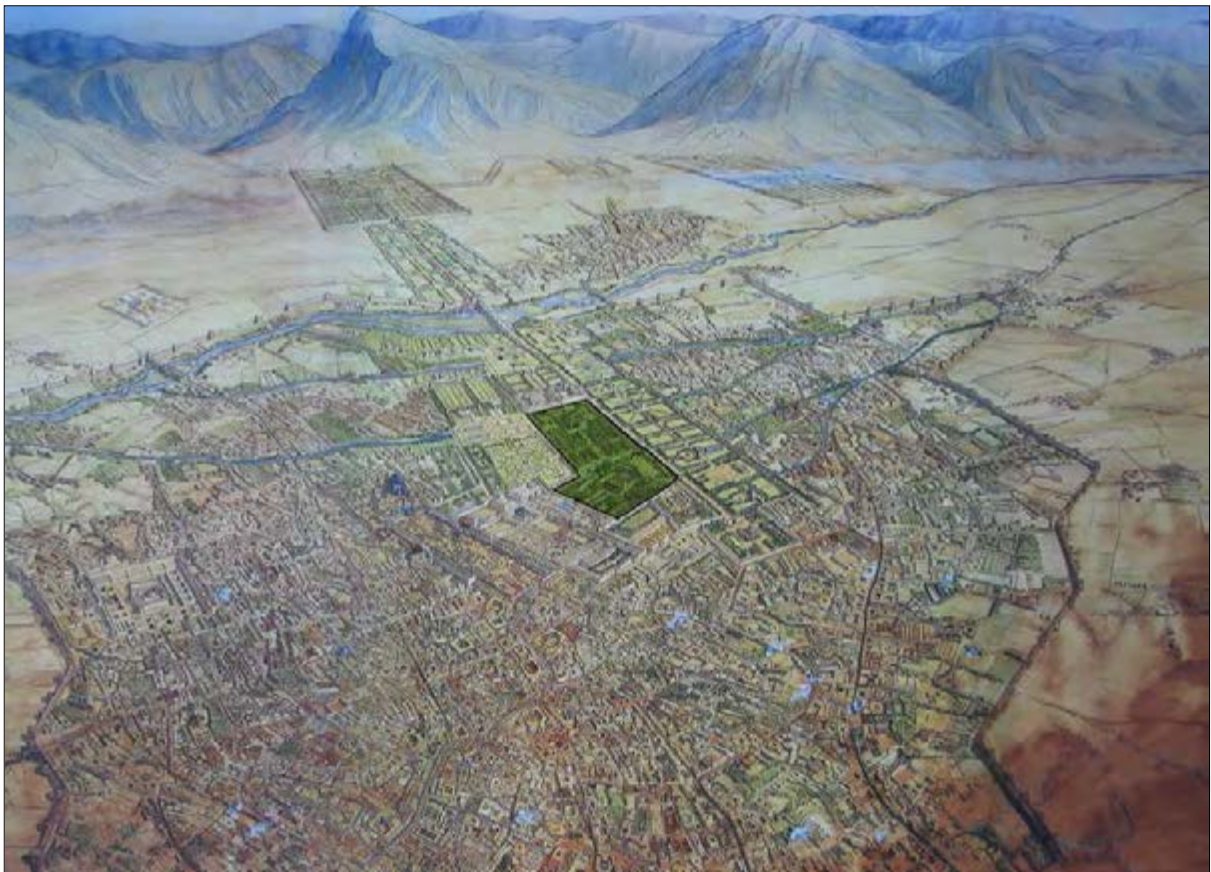


Fig. 3-3. *Bagh-e Shahr-e Isfahan* (The city of gardens), Source: Bavand Consult Engineering

1. plan of Chahrbagh by Engelbert Kaempfer, British Library, Sloane 5232, fol.41

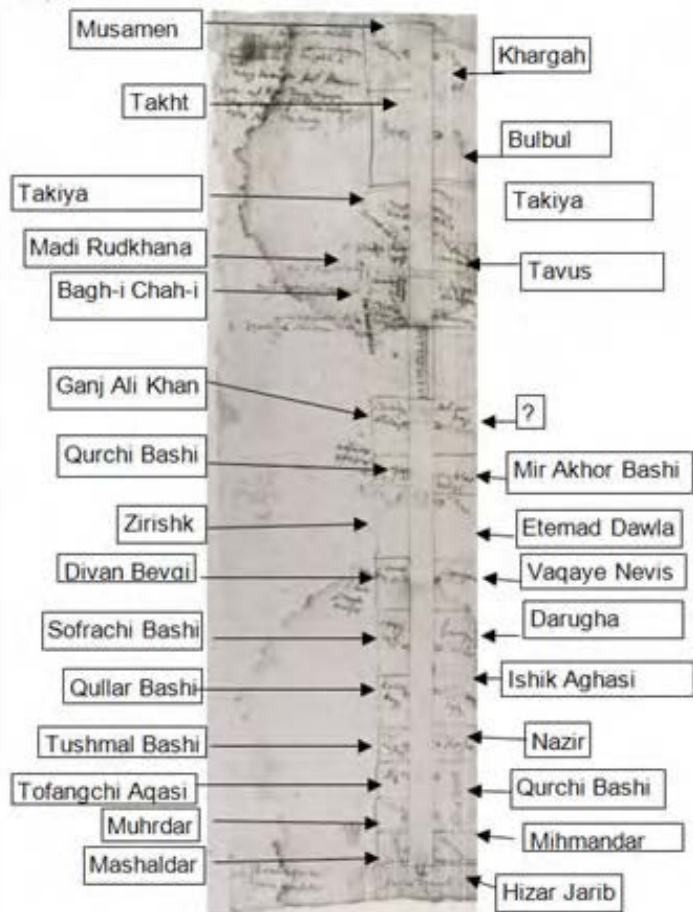


Fig.3-4. Plan of *khiyaban-e chaharbagh* by Engelbert Kaempfer, British Library, Sloane 5232 fol.41, [www.middleeastgarden.com](http://www.middleeastgarden.com)

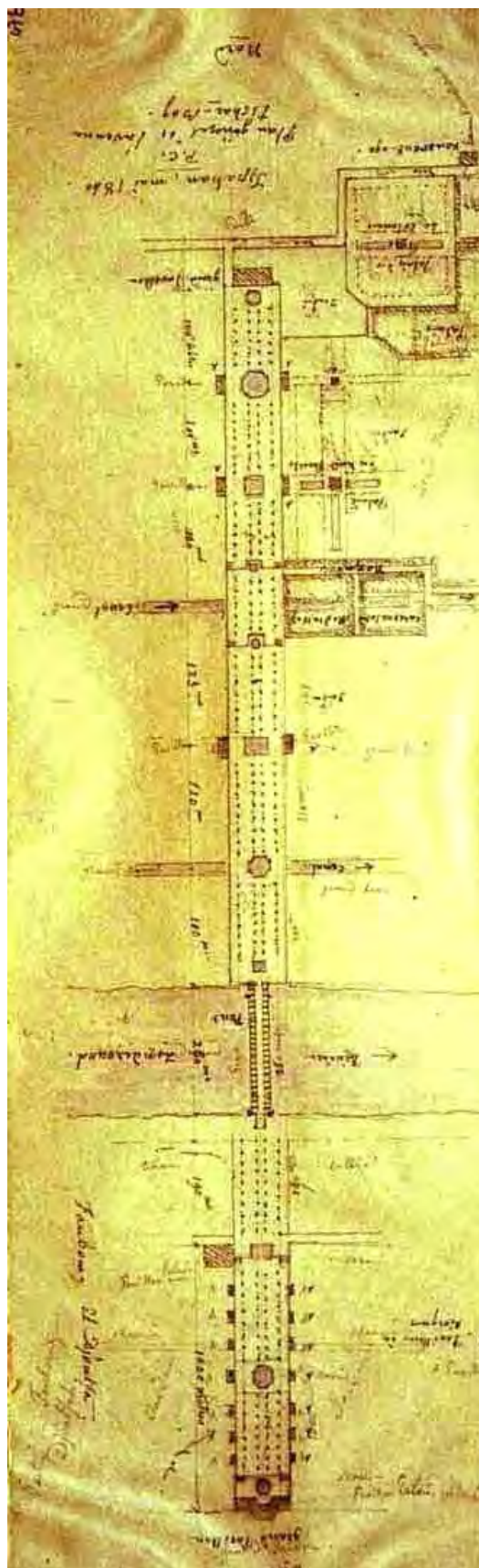


Fig. 3-5. Plan of the *khiyaban-e chaharbagh* by Pascal Coste, [www.middleeastgarden.com](http://www.middleeastgarden.com)



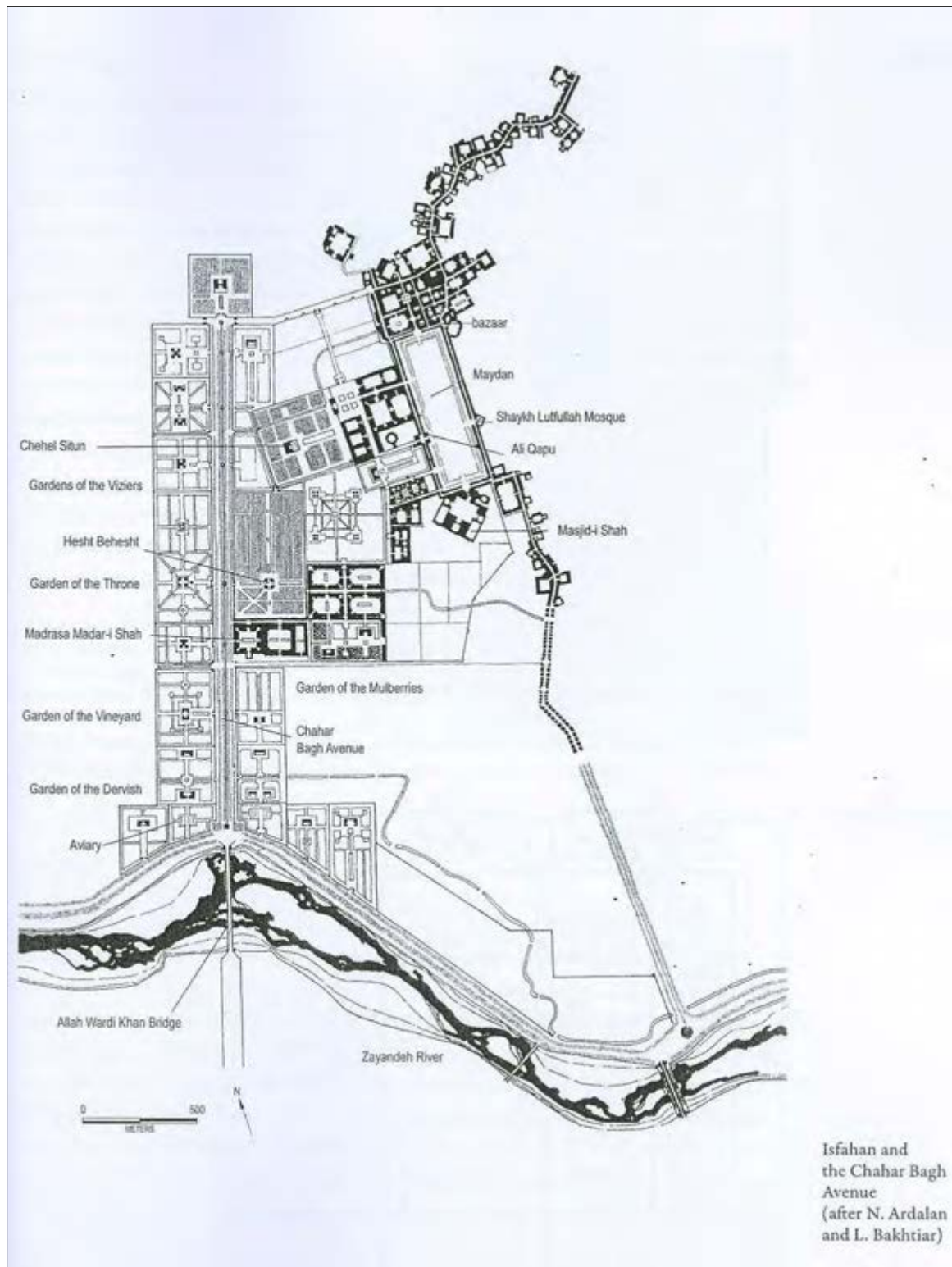


Fig. 3-6. Isfahan and the *Chahar Bagh* Ave. (N. Ardalan and L. Bakhtiar)

Despite being originally created in the heart of the desert lands of Iran, the cultural tradition of the Persian Garden also emerges in much more lavish areas such as north of Iran, Kashmir, and Agra. The tradition has lived through ages, and it is still alive with all its creativity.

**Criterion (IV): "To be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history."**

The Persian Garden, developing over more than two millennia, is an outstanding example of a type of garden design, achieved by making the best use of natural and human elements and integrating significant achievements of the Persian culture into a physical and symbolic-artistic expression in harmony with nature. Indeed, the Persian Garden has become a prototype for the geometrically designed garden layout, diffused in a large part of the world.

Historically, the Persian Garden is the prototype of the "Western" garden design, while the 'Chinese Garden' represents the Oriental design. The Persian Garden is a special creative achievement of man, which through the course of history has been closely associated with the arts, as well as representing human approach to the nature in its strictly designed layout. The Chinese Garden, instead, has generally been asymmetric and free in its conception. Both types of garden have strong symbolic associations, even though they represent two different approaches in their expressions. (*Refer to comparative analysis, page:506*)

The Persian Garden has been distinguished particularly in: a) The garden and its components (walls, use of water in both applied and ornamental forms, plants, shades, geometry, and the position of the onlookers), b) The relationship with the surrounding environment, and c) The cultural associations. The prototype of the Persian Garden is best described in the treatise known as *Irshad-oz Zira'at*<sup>2</sup> ('guide to agriculture'), written by *Heravi* in the early days of the rule of the Safavids (in the 17<sup>th</sup> century), and it is known to have been one of the references for Western symmetrical garden designs.

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<sup>2</sup> Abunaser-e Heravi, Qaseme-bn-e Yousof, (AH 921/ AD 1515); "Irshad-oz Zirāat".

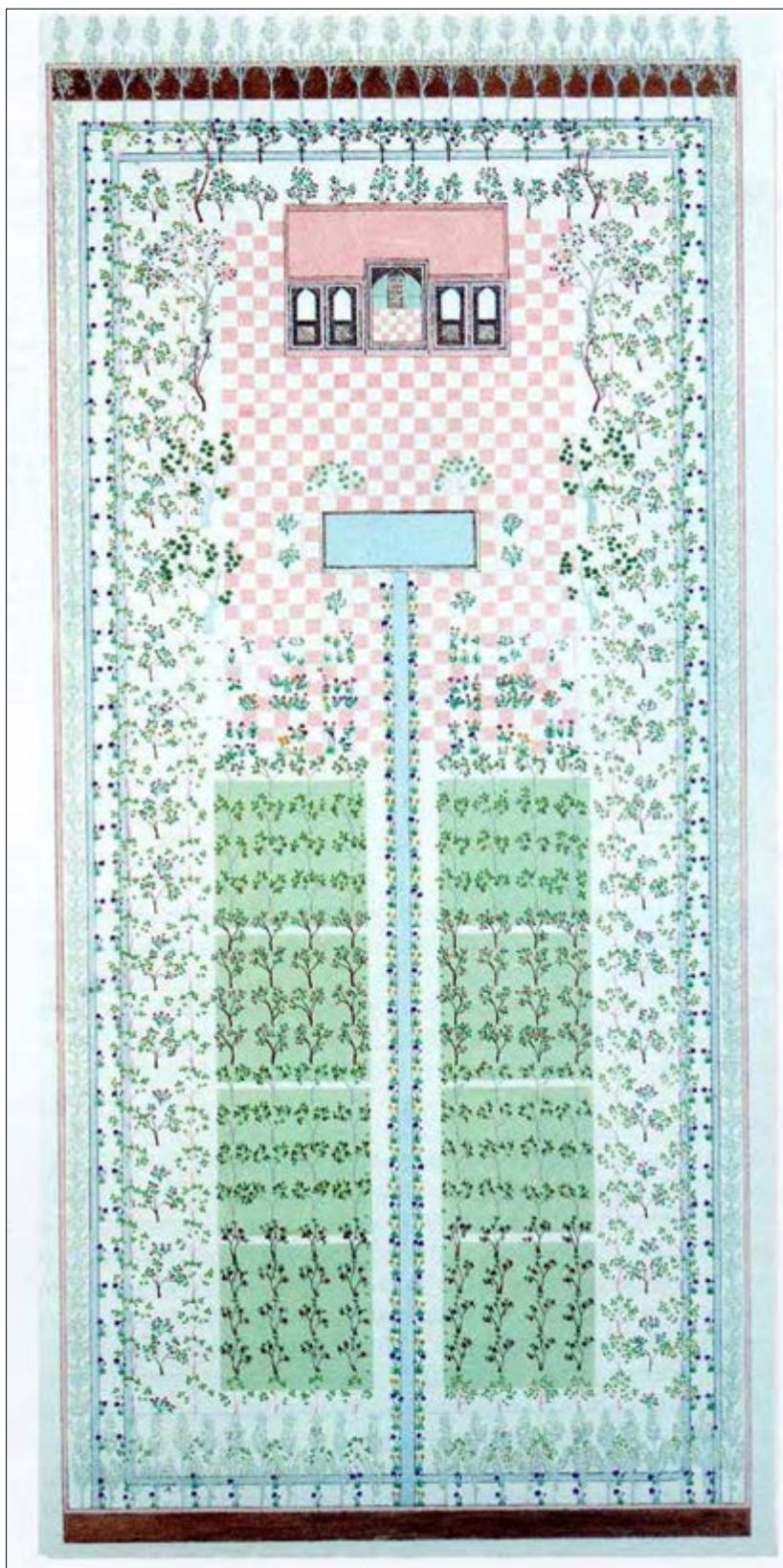


Fig .3-7. Graphical Reconstruction of The *Chahar Bagh* Type of Garden according to Heravi.(Drawing by *Mahvash Alemi*)

Born originally in desert climate, the Persian Garden has, as a phenomenon, required the employment of all possible resources that were available. All that was required had to be specially designed and produced. This meant inventing special techniques of soil fertilization and systems of water management (*Qanats*), the adjustment of environmental elements and providing shade, choosing suitable plants, indeed creating an artificial environment that was in strong contrast with its harsh, desert setting. The techniques used for the creation of the Persian garden thus represent benchmarks of human creativity in a significant period of human history.<sup>3</sup>



Fig .3-8. Aerial view of a Qanat passing under the grounds located near Yazd  
Source: Persian Garden a Reflection of Paradise, 2004

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<sup>3</sup> Articles of the First Conference on Persian Garden, Tehran, Iran Contemporary Art Museum, 2009.

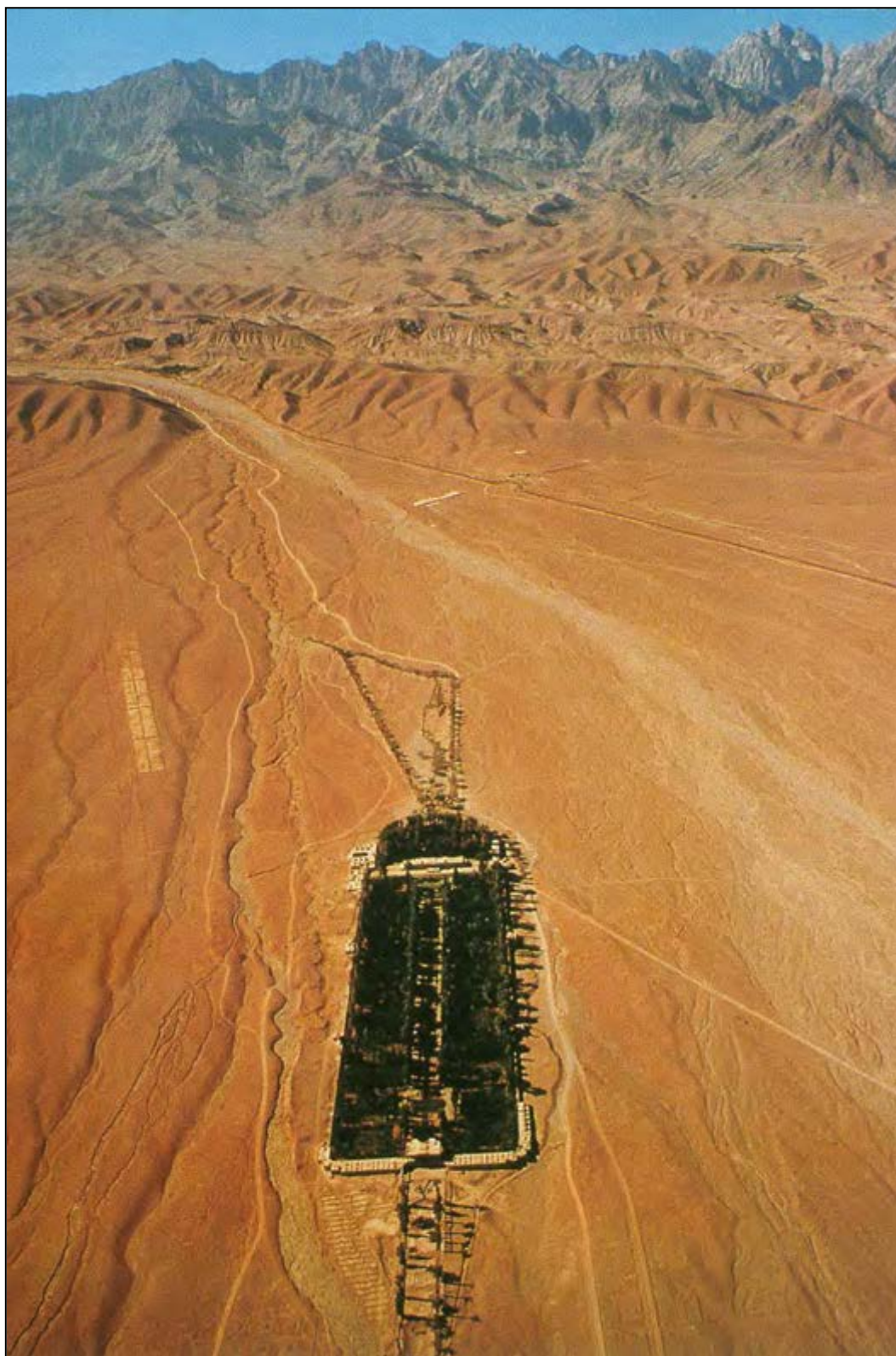


Fig .3-9. *Bagh-e Shahzadeh*, Mahan, Kerman province

**Criterion (VI): “To be directly or tangibly associated with events or living traditions, with ideas, or with belief, with artistic and literary works of outstanding universal significant.”**

The Persian Garden is directly associated with cultural developments of outstanding universal significance, including literary works, poetry, carpet design, miniature painting, music, architectural ornaments, etc.



Fig. 3-10. The miniature (painted 1539 -1543) attributed to the painter Aqa Mirak, represents the *Bagh-e Saadat* in Qazvin ([www.middleeastgarden.com](http://www.middleeastgarden.com))



Fig. 3-11. Right: Persian garden and Eden, (Aryaseb, Dadbeh)

In the *Avesta*, the ancient holy book of the *Zoroastrians*, the Persian Garden and its sacred plants are praised as one of the four natural elements (earth, heavens, water, and plants). It has constantly been emphasized inasmuch as *Ahura Mazda* is referred to as living in the *Minavi* ('Heavenly Garden'). All these sacred and mythical concepts have been reflected in Cyrus' garden in *Pasargadae* in the form of the geometry of *Chahar Bagh*, which is a reflection of the mythical perception of nature, and the cosmic orders in the eyes of the ancient Iranian peoples.

This idea changed into a symbolic illustration of the Paradise after Islam reached Iran, and after *Quranic* ideas merged into Iranian beliefs in the form of materialization of Heavenly Paradise on Earth. Like other holy books, the *Holy Quran*, too, has described the Heaven as a garden. Allah has created such gardens for the well-doers as places of eternity, serenity, and salvation. As the Persian garden historically precedes Islam, the account of Paradise in the *Holy Quran* in its mundane form is indeed a description of the Persian Garden. The description of the flow of water in brooks, the springs bubbling from in the middle of the river *Kowsar*, the fruit trees and their shades, are clear examples of this. Such an orderly approach soon influenced literature, poetry, carpet and textile design, music, architectural ornaments, and other artistic forms.

The significance of the concepts of the Persian Garden lies in the creation of an environment suitable for reflection, discussion, and composing poetry, a place where one can receive the inspirations of the spiritual world and reflect them in the mundane world. The metaphorical depiction of gardens is evident in works of poets such as *Omar Khayyam*, *Sa'di*, and *Hafez*, as well as *Ferdowsi*, *Manuchehri*, and *Nezami* in their poems. The spiritual concept of garden is so tangible for the minds of the Iranians that the major parts of literary works of the prominent poets is linked to description of gardens. Even more significant, in the *Shah Nameh* (Book of Kings) by *Ferdowsi* the entire land of Iran is referred to as one large garden, and *Sa'di* has named two of his books as *Golestan* and *Bustan* ('rose garden' and 'flower garden'), which are indeed other terms to refer to the Persian Garden.

Most Iranian miniature paintings depict poetic or mystic feasts in the Persian Garden as a representation of the earthly Paradise. This is the common topic in illuminated manuscripts.

Perhaps the most significant association with the Persian Garden is found in the motives and patterns of the Iranian carpet design. The Persian carpet is generally designed as a stylised depiction of a garden and plants; many even directly reflect the layout of the *Chahar Bagh* pattern. Thus, the tradition of gardens and garden design in Iran with its model and concepts has directly associated with other cultural elements of great importance, insomuch as it has resulted in parallel development of gardens and traditions, which are still a vivid presence and influence in the Iranian society.

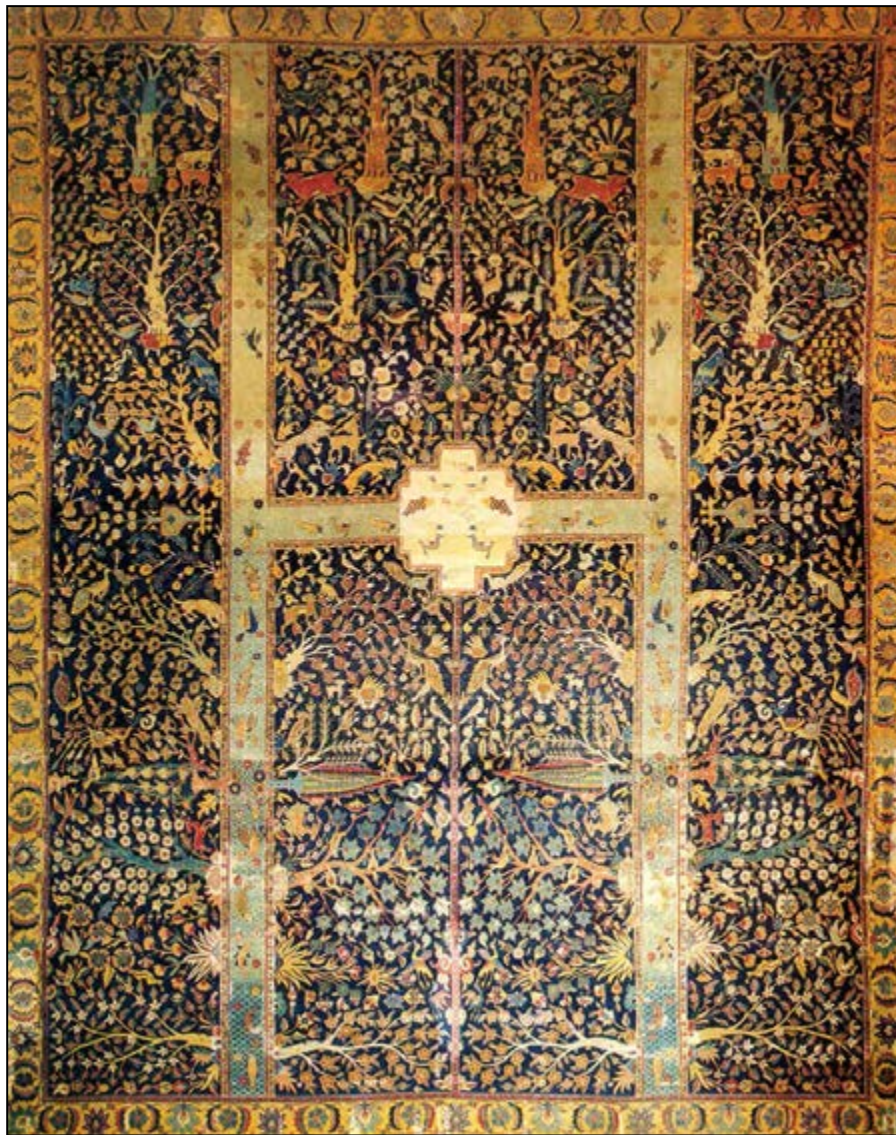


Fig. 3-12. Carpet known as Wagner belonging to Safavids period with images of H-shaped water canals, a basin in the middle and flowers with a *Chahar Bagh* pattern.



صبحدم مرغ چمن با گل نوحه کفت  
 گل بخندید که از راست زخم ولی  
 که قطع داری از آن جام صبحم لعل  
 تا دیدی بوی محبت بمشامش نرسد  
 در گلستان ارم دوشم چو از لطف هوا  
 کفتم ای مندم جام جهان بنیت کو  
 سخن عشق نه آن است که آید بر زبان  
 نازم کن که درین باغ بسی چون تو شکفت  
 بیچ عاشق سخن سخت به معشوق نگفت  
 ای بسا در که بونک مره ات باید بخت  
 هر که خاک در میخانه بر خاره ز رفت  
 زلف سنبل به نسیم سحر می آشفست  
 کفت افسوس که آن دولت پیدا از بخت  
 ساقی می ده و کوتاه کن این گفت و شفست

اشک حافظ خرد و صبر بر دریا انداخت  
 چکند نور عنسم عشق نیارست نهفت

"حافظ"

At dawn, the bird of the sword spake to the rose:  
 "Display less disdain; for, in this garden many a one like thee hath blossomed".  
 The rose laughed saying: "We grieve not at the truth; but  
 "No lover spoke a harsh word to the beloved."  
 If thou desire ruby wine from that begemmed cup,  
 O many the pearl that it is necessary for thee to pierce with the point of thy eyelash.  
 To eternity without end, the perfume of love reacheth not the perfume place of him  
 Who, with his face, swept not the dust of the door of the tavern.  
 Last night, in the garden of Eram, when from the bounty of the air,  
 The tress of the hyacinth was disturbed by the morning breeze,  
 I said: "O throne of Jamshid! thy cup world-displaying, where?"  
 It said: "Alas! wakeful fortune slept."  
 Not that which cometh to the tongue is the talk of love:  
 O Saki! give wine; make short this uttering and hearing.  
 Into the sea, the tear of HAFEZ hath cast wisdom and parience:  
 What shall he do? The consuming of love's grief, he cannot conceal.

"HAFEZ"

Fig. 3-13. Poem of Hafez-e Shirazi

### **3. b. Statement of outstanding universal value**

**Location:** The serial nomination of the Persian Garden consists of nine sites:

- 1- *Ancient Garden of Pasargadae*
- 2- *Bagh-e Eram*
- 3- *Bagh-e Chehelsotun*
- 4- *Bagh-e Fin*
- 5- *Bagh-e Abas Abad*
- 6- *Bagh-e Shahzadeh*
- 7- *Bagh-e Dolat Abad*
- 8- *Bagh-e Pahlavanpur*
- 9- *Bagh-e Akbariyeh*

These Gardens are located in different parts of Iran, the Ancient Garden of Pasargadae and *Bagh-e Eram* are situated in Fars province in south of Iran. *Bagh-e Chehel Sotun* and *Bagh-e Fin* in the city of Isfahan and Kashan both in Isfahan province. The City of Isfahan as the center of *Isfahan* Province is placed in a semi-desert area with Zaayande-rud River going through it. The terrain on which Kashan is situated ends in desert and mountains from opposite sides. But *Bagh-e Abas Abad* is located in north of Iran inside a dense forest of *Alborz* highlands with a climate under the influence of the surrounding mountains. *Bagh-e Shahzadeh* is situated in the city of Mahan in Kerman province in southeast of Iran. *Bagh-e Dolat Abad* and *Bagh-e Pahlavanpur* are in Yazd and *Mehriz* cities two which are important cities of Yazd province in central Iran with dry climate because it is located upon the so-called dry belt of the earth. *Bagh-e Akbariyeh* is located in the city of Birjand in southern Khorasan province.



Fig. 3-14. Panorama of Isfahan attributed to the painter Jan-Baptist Van Mour, showing the *Bagh-e Farahabad* and *Bagh-e Hizar Jarib* in the foreground, Sotheby's, London

**Qualities:** The Persian Garden is a unique artistic creation where art is manifested in association and combination with nature. It reflects the interaction of man and nature, taken to a level of near-perfection. It has been associated with significant cultural indicators such as poetry, philosophy, painting, music, calligraphy, symbolism, semeiology, sculpture, and carpet design. The Persian Garden has specific qualities, where it differs from other gardens in the world. The idea of the garden has also been reflected in the different aspects of Iranian approaches to life, including the creative design of household objects, residential, public and administrative buildings and facilities in cities and villages. Diverse cultural and natural aspects have been combined so as to demonstrate significant reflections of Iranian traditions, cultures, and belief systems. The miniature paintings, inscriptions, carpets, patterns and motifs, choices of colors, forms, and architectural styles, choices of flowers and trees, the overall layout of the gardens, the employment of specific techniques, and the design of water supplies have also resulted in the development of a sustainable technology and an intelligent use of natural resources.

**Criterion (I):** The Persian Garden represents a masterpiece of human creative genius, as has been testified by historians and explorers who have travelled to Iran over the course of centuries. The design of the Persian Garden, based on the right angle and geometrical

proportions, often divided into four sections, became known as *Chahar Bagh* (Four Gardens). The creation of the Persian Garden was made possible due to intelligent and innovative engineering solutions and a sophisticated water-management system, as well as due to the appropriate choice of flora and its location in the garden layout. Indeed, the Persian Garden has been associated with the idea of earthly Paradise, forming a stark contrast to its desert setting.

**Criterion (II):** The Persian Garden exhibits an important interchange of human values, having been the principal reference for the development of garden design in Western Asia, in Arab countries, as well as in Europe. It is particularly the geometry and symmetry of the architecture together with the complex water management system that seem to have influenced design in all these gardens. The word Paradise entered European languages from the Persian root word "*Pardis*" which was the name of a beautiful garden enclosed between walls.

**Criterion (III):** The Persian Garden bears exceptional and even unique testimony to the cultural traditions that have evolved in Iran and the Middle East over some two and a half millennia. During its evolution, the Persian garden has been a significant manifestation in the various cultural and social aspects of the society, becoming a central feature in private residences, palaces and public buildings, as well as in ensembles associated with benevolent or religious institutions, such as tombs, park layouts, palace gardens, *Meidans*, etc.

**Criterion (IV):** The Persian Garden is an outstanding example of a type of garden design, achieved by making the best use of natural and human elements and integrating significant achievements of the Persian culture into a physical and symbolic-artistic expression in harmony with nature. Indeed, the Persian Garden has become a prototype for the geometrically designed garden layout, diffused in a large part of the world, a counterpoint to the Chinese Garden in the Orient.

**Criterion (VI):** The Persian Garden is directly associated with cultural developments of outstanding universal significance. These include literary works and poetry for example by *Ferdowsi*, *Sa'di*, and *Hafez*. The Persian Garden is also the principal source of inspiration to the Persian carpet and textile design, miniature painting, music, architectural ornaments, etc. In the *Avesta*, the ancient holy book of the *Zoroastrians*, the Persian Garden and its sacred plants are praised as one of the four natural elements (earth, heavens, water, and plants). The *Chahar Bagh* is a reflection of the mythical perception of nature, and the cosmic orders in the eyes of the ancient Iranian peoples.

### **Authenticity and integrity**

The authenticity of the nine nominated gardens has been respected regarding design, technology, building materials, setting as well as intangible heritage aspects based on the science of restoration, natural environment and the indigenous culture. Fortunately during the restoration and maintenance of these gardens, traditional knowledge and building materials have been utilized. Furthermore, traditional systems of water supply such as *Qanat* have been maintained in all, except *Bagh-e Eram*, *Bagh-e Chehel Sotun* and *Bagh-e Dolat Abad* where urban development has forced to shutting down *Qanat* sources and replacing them with wells. However, the water circulation system in the gardens has been kept in their original conditions. Moreover, *Bagh-e Abas Abad* of Behshahr and Ancient Garden of Pasargadae have preserved all of their elements as an archeological site.

In most of the gardens the plants and their layouts are continuance with the historical tradition of Persian landscape gardening. Regarding their surrounding landscape, it must be said that those gardens, which are located in rural areas, have kept their virgin landscapes but those situated in urban areas are subject to regulations approved in past or present respecting their landscapes.

The integrity of these nine gardens was studied not only from a visual point of view but also from the structural and functional ones. Fortunately, all the selected gardens are still being used publicly from a functional perspective and has also fully been maintained the integrity of their entire elements from a structural perspective.

**Protection and management:**

The nine nominated gardens, which together represent prominent values of the Persian Garden, are managed under the supervision of the National Base of Persian Garden. Within the existing management system, the National Base of Persian Garden is responsible for macro scale policy making and provincial bases have the executive duties.

Considering previous conservation operations and approved regulations, it can be said that core and buffer zones of the nominated gardens are in a decent condition.

After the establishment of the National Base of Persian Garden and provincial bases, all nominated gardens came under integrated financial and technical supports.

At present, conservation and management of all gardens are underway respecting their authenticity and integrity and aiming at conserving universal prominent values of the Persian Garden.

### **3. c. 1. Comparative analysis (including state of conservation of similar properties)**

According to the Persian Garden features, including [context, geometry, shadow, wall, and water (functional and decorative)] is comparing the nine nominated gardens with other similar gardens in Iran:

#### **Gardens of Fars province**

##### ***Bagh-e Eram* (Eram Garden of Shiraz)**

According to description (refer to chapter 2.a), the famous *Bagh-e Eram* of Shiraz dates back to Seljuk kings (429-590 LAH) but it has been expanded and restored in different periods of time including Zands, Safavids and Qajars dynasties.

*Bagh-e Eram* of Shiraz stands on a large rectangular-shaped ground with its longer side towards north and *Eram* Boulevard, its shorter side towards west and Daneshju Boulevard and the other two sides overlooking adjacent gardens and residential buildings.

Prevalent plants system of the Persian Garden has been observed in the vegetation of this garden. One of the most distinct characteristics of *Bagh-e Eram* is its tall and beautiful *Sarvenaz* trees which are a kind of cedar. Moreover, it is well-known for the variety of its plants. For example, its rose garden is unique regarding the variety and beauty of rose flowers throughout Iran and its neighboring countries even in the whole Asia. Actually, its parallels are seen only in a few countries.

Previously, garden water was supplied by a spring located northwest of *Shiraz* but now its main water resources are two deep wells dug inside the garden grounds.

The double main walkways of *Bagh-e Eram* are cross like and canals have been dug at their either sides. Due to the hot climate of Shiraz in which the most cost effective usage of water is intended, the regular geometry is actually meant to prevent wasting water as well as to direct water flow in canals built in four directions. Opposite the main structure of the garden which is overlooking its arena, there exists a large fountain in which the image of the entire building is reflected. The main building and *Andarooni* complex are in an elevated spot west of the garden.



Fig. 3-15. View of the Kushk (Pavilion)

The main building has three floors. It has a gable roof with a double columned porch at its front which has a flat roof. Regarding its architecture, painting, tiling, stone carving and stucco works, it can be considered as a masterpiece of art and industry in Qajars period. The lower floor which is at the same level with the ground has a middle main hall called the basin house.

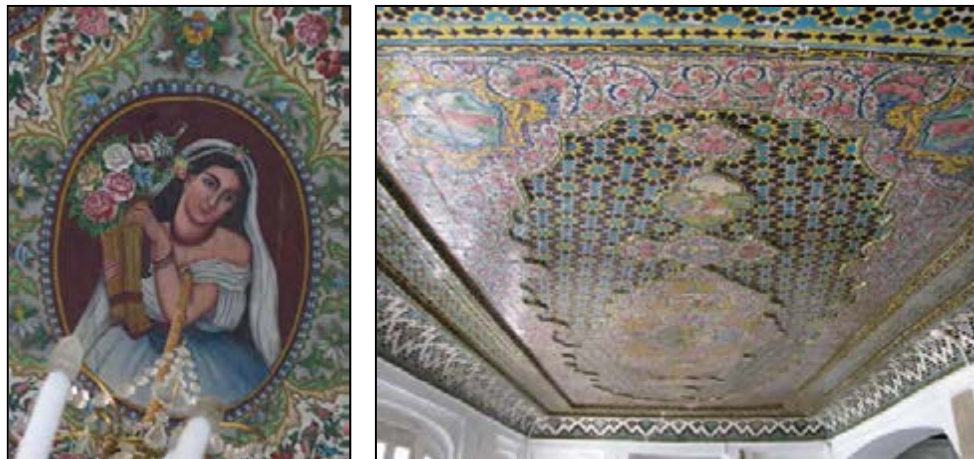


Fig. 3-16. The sample of decoration in main hall- *Bagh-e Eram*

At the southern side of *Andarooni* section, there exists a space which according to old texts was apparently a hot bath house. The evidence show that it dates back to Qajars era.

Given the history of its development, its architectural form and function; *Bagh-e Eram* Complex is classified as a garden-pavilion. Due to its various spaces, maintenance of internal



waterworks system of the garden, vegetation protection as well as its appropriate management, *Bagh-e Eram* is considered as one of the most intact gardens of Shiraz enjoying the most complete garden landscaping and architectural design among Shiraz gardens.

### ***Bagh-e Delgosha***

*Bagh-e Delgosha* is one of the oldest gardens of Shiraz located North- East of it. Formerly it stood outside the city and served as a public pleasure garden but urbanization resulted in its absorption into city fabric. *Bagh-e Delgosha* is situated near a mountain and a *Qanat* called *Sa'adi* which has warm water in winter time protecting sour orange trees from the cold.

Its construction is attributed to the Sassanids but has been used continuously in different periods of time so that in the Safavids era became one of the most famous gardens of Shiraz. It has gone under restoration during the Zands as well as the Qajars reign.



Fig. 3-17. *Bagh-e Delgosha*

Main axis of the garden extends from its entrance gate as far as the basin fronting the mid-garden building. On the either side of this axis are two citrus fruits lots. Two walkways are on the eastern and western sides of the main building and a third walkway is located North

beside which pine and cedar trees have been planted. Other trees of *Bagh-e Delgosha* are consisted of several old sour orange trees as well as palms, walnuts and a few other species. A big, beautiful basin stands in front of the bi-columnned portico south of the building.

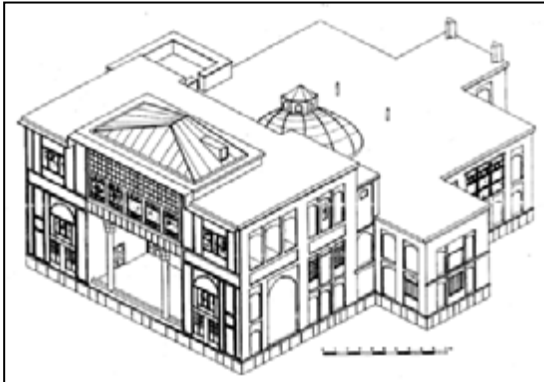


Fig .3-18. Perspective of mid-garden pavilion



Fig .3-19. Aerial view of *Bagh-e Delgosha*

The mid-garden pavilion comprises a large hall with four alcoves constructed in the architectural style of the Sassanid palace of Bishapur still remaining in its original condition.

This building is in three floors with its forehead covered by *Muarraq* tiling. Part of the pavilion was destroyed in a fire two decades ago but was reconstructed during the past decade.

Regarding its antiquity, design, usage of geometrical order in forming garden space, exploitation of *Qanats*, vegetation system as well as selection of plants suitable for the climate, *Bagh-e Delgosha* represents satisfactorily the elements and systems existing in Persian Gardens although urbanization has somewhat harmed it.

***Bagh-e Jahan Nama***

*Bagh-e Jahan Nama* was located near one of city gates and due to the passing of a main *Qanat* of Shiraz through it served as a pleasure garden for kings and their honored guests.



Fig. 3-20. *Bagh-e Jahan Nama*

Garden gates are opposite each other and in the middle of the main axis of the garden; there stands a large square shaped basin. In later periods of time, other axes were added to all four sides of the mid-garden building. Its pavilion is octagonal and in an elevated spot. Inside it is a basin and a jet as well as traces of paintings and from outside its sun dried brick façade is seen.

Respecting the tradition of Persian Garden making, cedar trees have been planted alongside main axes, in addition sour orange and pomegranate trees comprise part of *Bagh-e Jahan Nama* vegetation.

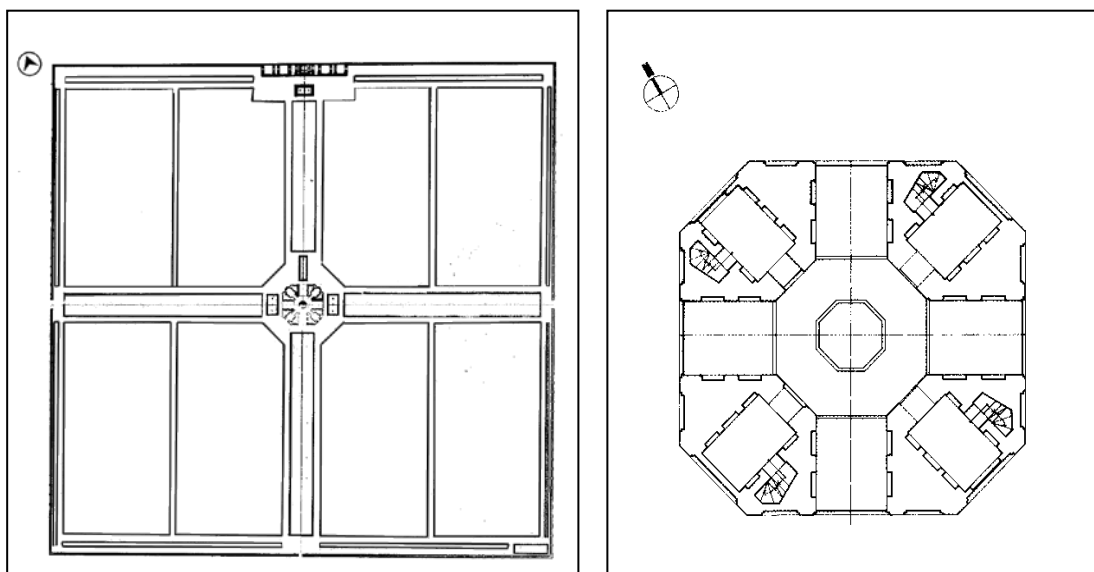


Fig .3-21. Plan of *Bagh-e Jahan Nama* and Kushk (Pavilion)

*Bagh-e Jahan Nama* is considered as another garden representing systems and principles of Persian Gardens with a design suitable for Shiraz weather but unfortunately in recent years all of its trees save those planted alongside the main axis have been destroyed.

### ***Bagh-e Nazar***

Present structure of *Bagh-e Nazar* has been built following the style of the Zands and the Qajars. The garden stands near *Vakil Bazar* of Shiraz and has been built by *Karim Khan-e Zand*, serving for governmental receptions and ceremonies. During the Qajars rule, it was also called the governmental base because it was the residence of the governors of that time. Present garden is part of a larger one and now stands on the southern side of Zand Street opposite the *Vakil Citadel* of Shiraz.

In the middle of the garden there is an octagonal, four-season building amid which a basin made of solid marble stone has been built with four alcoves standing on its four sides. Its ceiling is decorated completely by *Muqarnas* works and beautiful paintings.

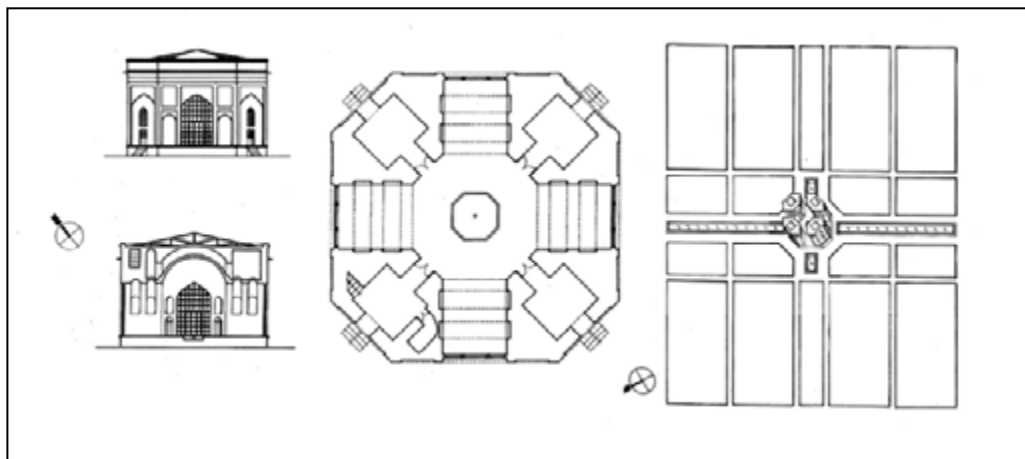


Fig. 3-22. Plan, section and elevation of *Bagh-e Nazar*

Inside the garden yard, four basins are seen on four sides of the building and in its surrounding flowerbeds are a row of sour orange trees. Moreover, cedar trees have been planted alongside main axes of the garden.

*Bagh-e Nazar* has a geometrical form with square shaped flowerbeds. Among other plants in the garden are fruit trees and narcissus flowers.

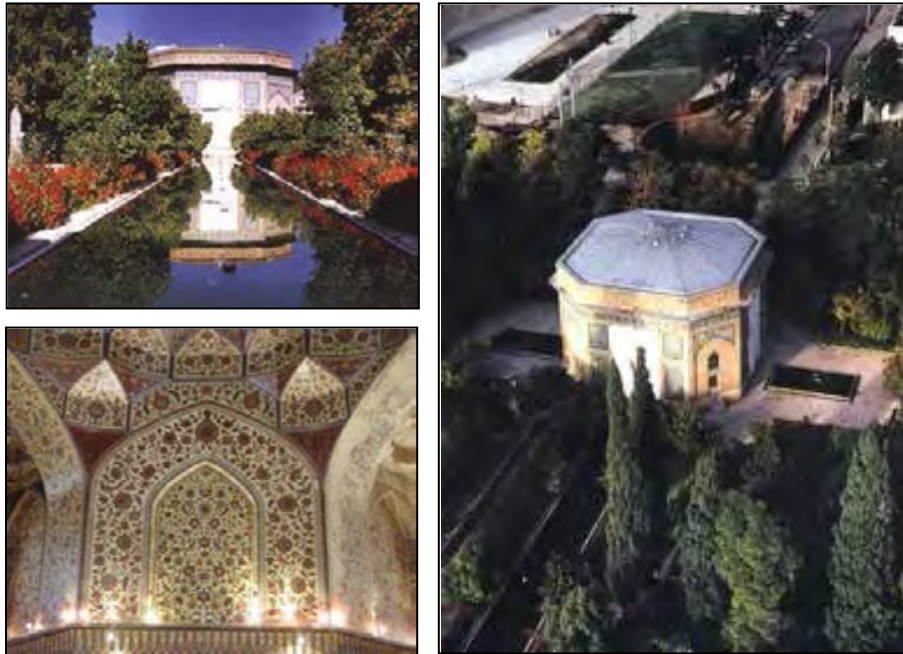


Fig. 3-23. Element of *Bagh-e Nazar*

Based on studies conducted, *Bagh-e Nazar* also enjoys all characteristics of Persian Gardens regarding the geometrical system, vegetation and its relation with water as well as the spatial configuration measures of Persian Gardens. Decorations used in the building also express Persian culture and art. But unfortunately due to the effect of urbanization only part of this valuable garden still stands.

### ***Bagh-e Golshan (Afif Abad)***

*Bagh-e Golshan* is one of the oldest gardens of Shiraz and during the Safavids rule was considered as one of the most important gardens of the city. Shiraz governor during *Shah Abas the Great*, *Yaghub Khan-e-Zolghadr* built a formidable castle in part of garden grounds using stones brought from *Jafar Abad* cemetery and *Mosalla* (public prayer house) but after the Safavids, the castle was destroyed and the garden was ruined and abandoned for many years. In 1863 (1284 LAH) *Mirza Ali Mohammad Khan Qavamolmolk* ordered the

reconstruction of the existing garden and building. He even bought *Lymak Qanat* of *Ghomsheh* palace for irrigating garden trees.



Fig. 3-24. Aerial view of *Bagh-e Afif Abad*



Fig. 3-25. The pavilion of *Bagh-e Afif Abad*



At the time in which Qajars ruled Iran, *Bagh-e Golshan* was one of the most beautiful gardens of Shiraz. All around the garden was fenced by mud *Chineh* with various kinds of fruit trees except sour orange and persimmon being planted. In addition, several walkways were built with rows of cypress, pine, willow, juniper and plane trees as well as stone waterfalls with ever flowing water. On either side of waterfalls, grass was planted. The basin

standing in the building precinct has survived the garden destruction. At present, the pavilion body serves as a military base. Despite being a reference pattern for the Persian Gardens, due to its plants variety, vegetation is more important than other aspects of *Bagh-e Golshan*.

### Conclusion

Investigations carried out about gardens of Fars Province (Shiraz city) show that despite the fact that all regional gardens enjoy outstanding values and standard patterns of the Persian Garden making, *Bagh-e Eram* is the best regarding its architectural design, vegetation and water system. In addition it has survived until now because of respecting authenticity and integrity.



Fig. 3-26. *Bagh-e Afif Abad*

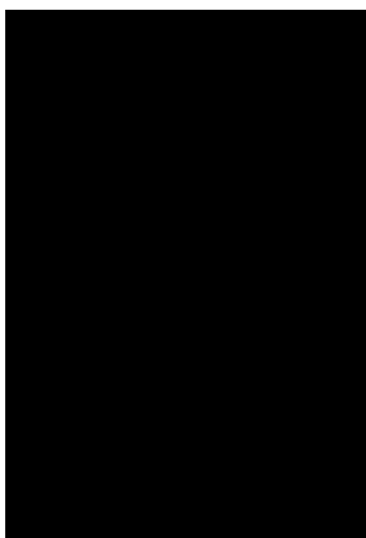


Fig. 3-27. *Bagh-e Nazar*



Fig. 3-28. *Bagh-e Jahan Nama*



Fig. 3-29. *Bagh-e Eram*



Fig. 3-30. *Bagh-e Delgosha*

## Gardens of Isfahan province

### *Bagh-e Chehel Sotun*

Large halls of the historical *Bagh-e Chehel Sotun* are the monuments remaining from the reign of the seventh Safavids king, *Shah Abbas* the second. They served as reception and audience halls. According to the author of *Khaqani Stories*, after the construction of *Chehel Sotun* palace, the garden surrounding it became known as *Bagh-e Chehel Sotun* but it was formerly called *Bagh-e Jahan Nama* with a palace of the same name standing on its far western side north of *Chahar Bagh* Street.

Main axes of the garden have been extended in an east to west direction along which plane trees have been planted. At present, garden vegetation comprises about 1050 trees as follows: Persian Pine, Elm, Black Maple, Plane Tree, Juniper Tree, Cedar Trees, Mulberry Tree, Claw leafed Maple, Aspen (white poplar), Poplar, Acacia (locust tree), Roman Laurel, Silk or *Shab-khosb*, Fig Tree, *Turi*, *Zalzalak* (wild plum), Box Tree and *Ash* Tree.

As other Persian Gardens, water plays the key role in the life of the garden. The most important manifestation of water in *Bagh-e Chehel Sotun* is the pool opposite its palace which has found a close association with it in the public opinion. Pool dimensions are 16 by 108m.

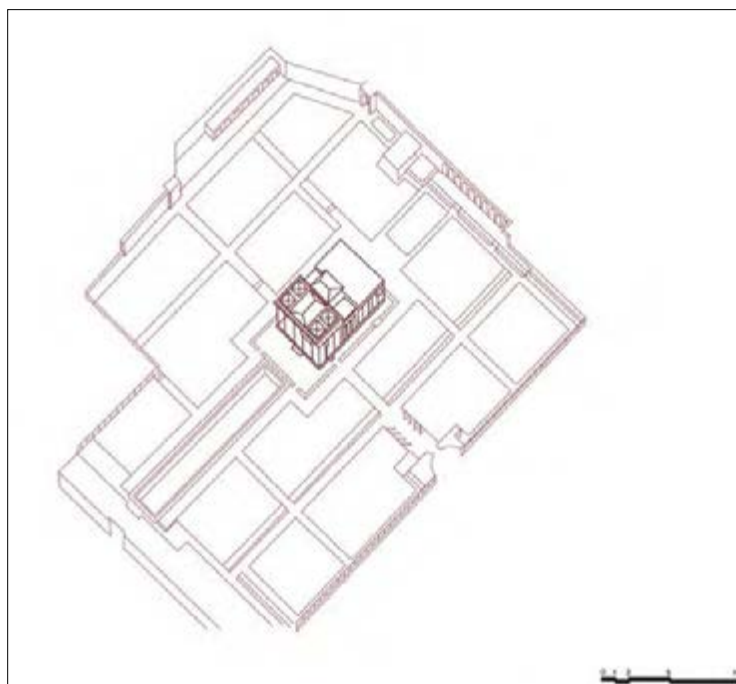


Fig .3-31. Perspective of mid-garden pavilion



Due to the mild north to south and west to east slope of *Bagh-e Chehel Sotun* grounds, pool water circulates around the pavilion too. The waterway around the pavilion had a width of one meter with a three meters distance from the building. At entrance positions, small bridges stood on waterways.

The main course of water supply is a *Madi*, which enters the garden from the west in the northern plots and exits it from its eastern side. This stream was a branch of *Fadeen* stream which after irrigating the garden, arrived into the northern side of *Naqsh-e-Jahan* Square from northern *Sepah* Street and after crossing *Mulla-Abdollah* school, entered Isfahan neighborhoods situated north east of *Naqsh-e-Jahan* Square.

From a structural point of view, it can be said that the architecture of the middle building of *Bagh-e Chehel Sotun* has been designed differently from residential buildings and its geometric shape is quite regular and perfect. Also, all spaces are simple geometric shapes. Positioning of spaces relative to the long axis is completely symmetric but there are multiple transverse axes with micro spaces standing symmetrical to them. All walls are decorated with full length mirrors, colored glass and beautiful paintings and all doors and windows are covered by inlaid works and fret works. Numerous ornamentations of the structure such as: paintings, inlaid and fretwork doors, ceiling and wall mirrors as well as stone cuttings aim to increase its beauty and coordinate it with the surrounding garden environment without any intention for boasting its grandeur or glory.

The factor distinguishing *Bagh-e Chehel Sotun* from other gardens is the special architecture of it. Spatial layout and architectural elements of garden have many similarities to the architecture of the Sassanid period. Garden axes in harmony with *Naqsh-e-Jahan* Complex and other dependant spaces are among interesting features of the garden. Creative usage of natural elements for better display of artificial elements of the garden such as the reflection of light upon the surface of the basin fronting the building not only present an excellent image of the palace on water but also increase its clarity by reflecting off façade mirroring. Another noteworthy point is the usage of number forty (*Chehel* in Farsi which is significant for Iranians) in a creative and artistic architectural structure. Furthermore, the collection of decorations and paintings used in the main building (because of its royal function) has turned this structure into an exquisite and gaudy monument whose decorations are almost matchless among other Iranian samples.(refer to description 2a)

*Bagh-e Chehel Sotun* is regarded as the best representative of Isfahan gardens for the following reasons: creation of a magnificent architectural system, peerless garden landscaping, water and plant system inspired by the reference pattern of the Persian Garden, perfection of its various spaces as well as maintenance of its authenticity and integrity.

### ***Bagh-e Fin - Kashan***

*Bagh-e Fin* is located in a village with the same name at a distance of six kilometers south west of Kashan.

*Bagh-e Fin* has a long history which dates back to pre-Islamic times. Its construction and royal buildings are attributed to the *Buyids* kings. Mongol Ilkhanids added to its buildings. But at its present condition, the garden is a work of the Safavids. Later, during the reign of the Zands and in particular *Karim Khan* it regained its former status and after another episode of neglect reached the climax of its boom in *Fatali Shah's* time but after the death of the Qajars king, the garden went to ruins until the contemporary period in which its values have been acknowledged again. As a result, *Bagh-e Fin* has become one of the important tourist destinations in central Iran.

Plants of *Bagh-e Fin* are intended to provide shadows, harvest crops and also for decorative purposes. But the majority of plants have always been adumbrant and fruit bearing ones with less priority given to flowers and decorative plants. Adumbrant trees are mostly *Kashi* cedars (*Cupressus Sempervirens*) and to a lesser extent plane-trees (*Platanus Orientalis*) and a very limited number of white poplars planted on the margin of plots.

At the south western corner of the garden near *Fatali Shahi* pavilion are two continuous lines of old cedar trees amid which two very famous old cedars known as *Leyli* and *Majnun* are distinct.

Decorative plants and flowers are another part of garden plants which today are planted in the margins or in the middle of the plot fronting Safavids pavilion.

Water required for *Bagh-e Fin* is supplied by *Soleymanieh* Spring. At the emergence spot of the Spring, there exist a large basin and a basin house known as *Mardaaneh* Spring. Within *Fin* waterworks, by using ceramic pipes (called *Tanbusheh* in Farsi) jets have been installed

at equal intervals which circulate the water all around the garden at vertical axes. In the end, waters of all these streams join together and exit from opposite the entrance frontispiece of the garden. Spring water flow reunites outside the garden and eventually irrigates other gardens and farms of *Fin* and its suburbs after local divisions.

Not only its exceptional artistic and architectural innovations are significant, but also *Bagh-e Fin* has witnessed important social and political events in the course of the history of Iran. In addition its *Qanat* plays a key role in supplying water needed for watermills and garden-houses.

*Bagh-e Fin* can be regarded as an important the Persian Garden and even a jewel of a Persian Garden because of enjoying significant pattern elements of Persian Gardens, its organized waterworks, its old vegetation, magnificent architectural and artistic elements, respect for authenticity and integrity as well as its role as a stimulant for regional development.

Fig. 3-32. Plan of *Bagh-e Fin*

***Bagh-e Hasht Behesht***

Among all the castles and *Kolah-Farangis* constructed near the *Chahar Bagh* Palace, only *Bagh-e Hasht Behesht* still remains. This magnificent building that was once called the most beautiful palace of the world was built in 1660 in *Shah Soleiman* Safavids period near *Bagh-e Bolbol*.

The beautiful arches and abundant harmonic decorations of this two-floored building have displayed one of the most excellent examples of architecture belonging to the Safavids period.



Fig. 3-33. Elements of *Bagh-e Hasht Behesht*

The vast garden in which the building stands was part of the large *Bagh-e Naghsh-e Jahan* which was constructed by *Shah Ismail* the first but at the time of his successors, especially *Shah Abas* the first was divided into several parts.

This majestic palace from the outset of its construction has been called by various names such as: "*Hasht Behesht Building* ", "*Hasht-be-Hasht*" and "*Hasht-dar-Behesht*".

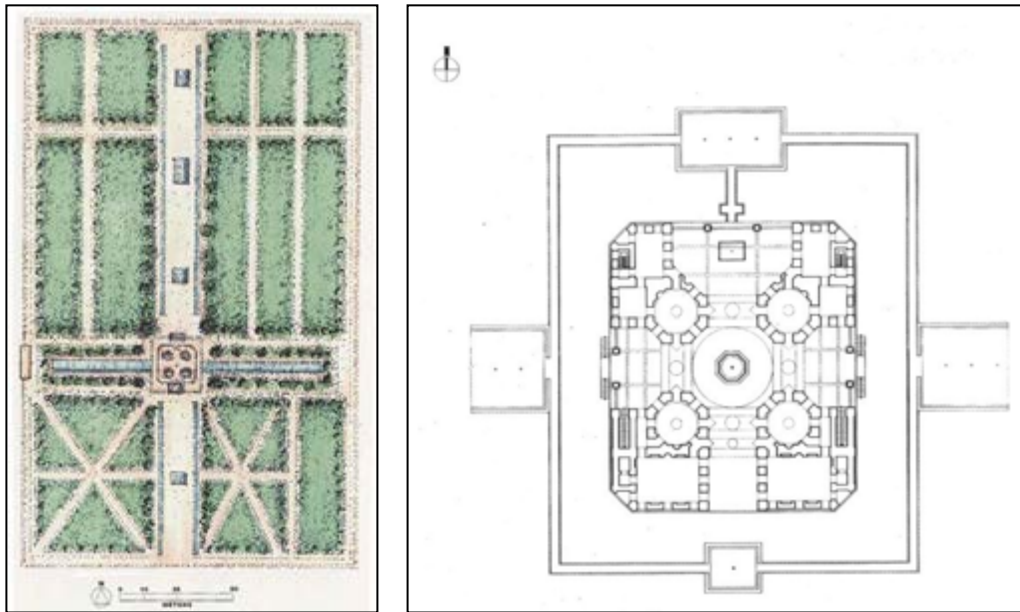


Fig. 3- 34. Plan of pavilion and *Bagh-e Hasht Behesht*

First floor rooms of all four corners of the building are decorated with paintings and plaster moldings. On the second floor of the building, a series of rooms, porches and windows add to its beauty. This floor is divided into several rooms and passages each having a special decoration. All ceilings of the palace are also covered by very excellent mosaics and are encircled by very beautiful and harmonic passageways and corridors. One of the features of this building is the abundant and varied use of the water. Inside the northern portico stands a beautiful marble basin known as the pearl pool because there are many holes in the basin floor out of which the water comes out like pearl beads onto the surface of the basin. Decorations of the building during the Safavids period were so glorious and artistic that no traveler could refrain from their admiration. This valuable building which is a representative of the architecture of the Safavids period also serves as a museum of various ornamentations in which we can see the diversity of the holy presence of water in the architecture. In the late Qajars period, the building of *Bagh-e Hasht Behesht* became private property. Although this unique garden is considered as having great importance in the development of the concept of Iranian Gardens, but due to urban development and interventions performed in it, *Bagh-e*

*Chehel Sotun* has been given the priority as a representative of Persian Gardens introduced in the file.

### ***Bagh-e Abas Abad - Natanz***

In the *Abas Abad* area located near the Old Road of Kashan-Natanz and at a distance of less than 10km from Natanz, *Bagh-e Abas Abad* was constructed within a hunting ground. Main building of *Bagh-e Abas Abad* dates to *Shah Abas the Great* and served as a hunting and recreating place for Safavids kings. It was made of mud and mud bricks standing amid an extensive garden which from the west ends in *Karkas* highlands and from the east is located between low hills and vast pastures extending as far as *Badrud*. Its beautiful landscape and desirable climate has made it a magnet for tourists. According to historians, the specific location of this place shows the wisdom of its builders in selecting the most suitable spot for hunting and tourism.



Fig. 3-35. Part of *Bagh-e Abas Abad Natanz*

A rectangular formed pavilion stands at the end of garden with a construction style similar to the architecture of the Safavids period. In front of the building is located a pool on the main axis of garden. The primary structure of palace was so strong and firm that it still remains intact. Painting traces in some spots of the ceiling and the wall are visible. This palace with its villa and garden as well as the diversity of its perspective that was once a resort and a hunting ground for Safavids kings, now has become farm and personal property. Due to the

negligence of its owner, some parts of it has been abandoned but generally it still enjoys the values and the standard pattern of Persian Gardens.

### **Conclusion**

Considering the region under study which had a governmental function in different periods of time as well as regarding the measure of selecting the best garden with a Persian pattern, all the gardens studied qualify to be enlisted but *Bagh-e Fin* and *Bagh-e Chehel Sotun* are superior to others due to their outstanding design, technology, artistic and architectural characteristics as well as their respecting the authenticity, integrity and continuous tradition of Persian Gardens. In addition, they are considered as more comprehensive samples because of the dexterity of their builders in using technology and in controlling nature.



Fig. 3-36. *Bagh-e Hasht Behesht*



Fig. 3-37. *Bagh-e Chehel Sotun*



Fig. 3-38. *Bagh-e Fin*

## **Gardens in Yazd Province**

### ***Bagh-e Dolat Abad***

*Bagh-e Dolat Abad* was constructed in 1740 during the Zands rule by *Mohammad Taqi Khan*, known as the Great Khan, head of Yazd Khan Families. Initially, he built a ten farasang long *Qanat* with the same name. This subterranean canal reached *Abshahy* and *Khorramshah* Villages near Yazd at a distance of 50 kilometers away after irrigating part of *Mehriz* lands and running a few watermills.

After the death of *Mohammad Taqi Khan* in 1793 the garden was gradually ruined. Although several times later went under restoration but never regained its former glory. Elements of *Bagh-e Dolat Abad* can be divided into natural and artificial elements which combined together form the garden.

The constituent elements of *Bagh-e Dolat Abad* are: mirror hall building, frontispiece house, *Behesht-Aeen* Building, wind catcher structure, *Andarooni* (women quarters), *Tehrani* building, servants quarters (retinue house), courthouse, kitchens (cooking houses), cistern, carriage house, summer and winter stables as well as a *Qanat*, basins and multiple water brooks running inside the garden area. The spatial structure of the garden consists of public and private parts.

The characteristic main axes of *Bagh-e Dolat Abad* make the garden space seem much larger and lovelier and the high wind catcher of the palace stands between these axes. Its two-storey pavilion was used for entertaining special guests as well as a resting place for the governor. This hexagonal building has four rooms around its central space and at its ground floor stand five water basins that divide the water entering from behind the same building. Because of its multiple lateral spaces and halls, *Bagh-e Dolat Abad* is one of the unique gardens in Iran.

There are plenty of trees in *Bagh-e Dolat Abad*, mostly pines, cedars and fruit trees. Fructiferous trees include grapevine and pomegranate which have been planted inside plots. The oldest tree still surviving in the garden is an old mulberry tree on the path leading to the main entrance.

Water flaunts in a prominent manner in *Dolat Abad*. The main route of *Dolat Abad Qanat* was at its south eastern side behind the summer mansion which after linking to a small basin



at the back of the building was divided into two branches. Among other prominent features of *Bagh-e Dolat Abad* is its historical *Qanat* which dates back to more than two hundred years ago. This *Qanat* is made of a combination of five smaller ones originating from *Mehriz* highlands. Factors making *Bagh-e Dolat Abad* prominent among other gardens in the province or even in Iran are its technological values, its wind catcher which is the highest in the world as well as its water circulation and transfer system. The garden has the most complete layout among Persian gardens both from a body and a natural point of view. Moreover, it is regarded as an excellent sample in presentation of the Persian Garden pattern.

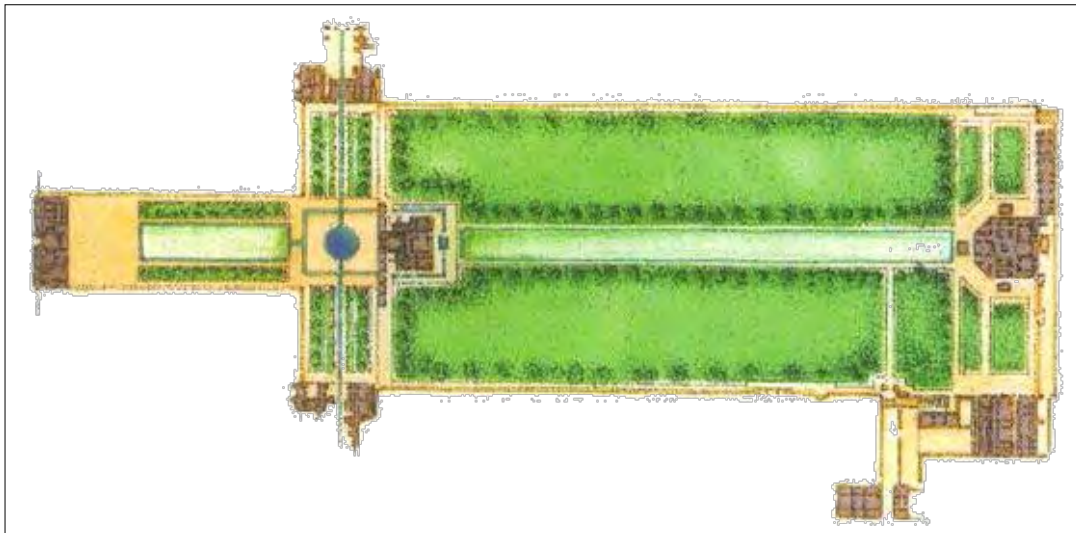


Fig. 3-39. *Bagh-e Dolat Abad*

### ***Bagh-e Pahlavanpur***

*Bagh-e Pahlavanpur* of *Mehriz* with an approximate area of 25000 square meters is located southeast of *Mehriz* at *Mazwir Abad* quarter. As a *Qanat* goes through it and due to the moderate local weather, it enjoys lush vegetation. So that formerly, it was used as the winter residence of the rich or noble men of *Mehriz* during the late Qajars period.

Spatial configuration of *Bagh-e Pahlavanpur* is made of two parts: the summertime and the wintertime sections. Its pavilion (*Sharbat-khaneh*) is regarded as one of the most beautiful buildings of the garden due to its enclosing of substructures such as the hall, the basin house and *Gooshvareh*. Moreover, *Hassan Abad Qanat* water initially entered the pavilion and afterwards went through the garden.

Located beside the pavilion (*Sharbat-khaneh*) of *Bagh-e Pahlavanpur* are the bath and cooking houses, caretakers quarters at the northern front of the garden and the store-room of its crops. The position of the pavilion is in such a manner that has symmetry relative to its double entrances.

*Bagh-e Pahlavanpur* has rows of various trees which are mostly pines, cedars and fruit trees. Fruit bearing trees of the garden include fig and pomegranate planted inside *Karts* (plots). Plane trees have been planted in two rows along two water brooks with one row upon the main garden axis. The old trees have been replaced gradually by new ones. Water manifests itself in a particular fashion in *Bagh-e Pahlavanpur*. The main route of *Hassan Abad Qanat* enters the south-western section of the garden at the winter residence after going through *Anjirak* watermill. Then it fills a small basin behind the summer mansion and after filling its inner basin enters the waterways. One of these waterways is located upon the main axis of the garden and the building. At the end of the main axis of the garden in the eastern side of it, the water enters *Mirza Nasrollah* watermill and after crossing the eastern gate of the garden, irrigates nearby grounds and gardens.

*Bagh-e Pahlavanpur* enjoys a special status as a reference pattern for a Persian Village Garden which has served as an orchard and a pleasure garden in various periods of time. Moreover, it can be regarded as the blend of traditional garden making and modern landscape gardening. As mentioned earlier, due to its location in a rural area *Bagh-e Pahlavanpur* is a



Fig. 3-40. *Bagh-e Pahlavanpur*

***Bagh-e Namir***

*Bagh-e Namir (Sadri)* of Taft dates back to almost two hundred years ago and has an approximate area of 12000 square meters. It is located in *Bagh-e Golestan* neighborhood in south eastern Taft beside *Taft* river which runs along Yazd-Shiraz road.

The core of the garden used to be a pomegranate orchard. Other structures of the garden include summer and winter residences. Initially, when *Bagh-e Sadrieh* was owned by *Mohammad Taqi Khan-e Bafqi* during Zand rule, it was a complex consisted of a mansion (summer residence), a winter residence and a stone basin with 98 jets of water positioned upon the main axis of the garden. The high wind catching structure of the garden is considered as its prominent feature and is easily distinguishable in Taft townscape. The location of *Bagh-e Sadrieh* of Taft beside the main road as well as its proximity with other Taft gardens has given it an outstanding status. Architectural spaces of the garden are divided into several parts that include: pavilion (*Zemestan Khaneh*), caravanserai (including mill, water reservoir and commercial spaces), houses around the garden and the mansion (summer residence).



Fig. 3-41. View of *Bagh-e Namir*

The mansion has been built following the architectural style of structures existing in Persian Gardens in which mansions are built upon the main axis or overlooking it. This presents a magical visual spectacle of water flow to the observer. Garden decorations of significance

here include: Brick decorations which are in combination with plaster of clay and straw and stone, the wall and floor wooden decorations as well as delicate plaster decorations seen prominently in orthodox works of the entrance vestibule ceiling and in wind catcher decorations and finally in the pavilion stuccos.

*Bagh-e Namir* has several rows of different trees mostly consisted of willows, pomegranate, mulberry, pine and cedar creating a lush green space. Fructiferous trees of the garden include grape and pomegranate planted inside *Karts*. These trees have been replaced gradually and there is an ongoing endeavor to substitute old trees.

Among salient features of *Bagh-e Namir* is its modern technology for using hydraulic systems which is significant in the 99 fountain-basin of the garden. This rare basin installed in the middle of the garden and discovered in recent archeological investigations is considered as one of the few instances of Persian Landscape Gardening in which garden irrigation system has been blended with the *Qanat* water current. The system has been made using simple ceramic pieces that display another matchless technology used in Persian Gardens. Garden vegetation has changed greatly in time and its *Qanat* has been hurt by urbanization.

### ***Bagh-e Golshan***

*Bagh-e Golshan* is located at the north-eastern end of *Tabas* Town, South of Khorasan province. The garden was constructed by a *Tabas* governor, *Mir Hosein Khan*. The date of garden construction in 1798 has been written in its endowment deed.

*Bagh-e Golshan* has a frontispiece that is located beside a rectangular form of square. It was destroyed during *Tabas* earthquake but has been reconstructed. The frontispiece is the only structure of the garden which is quite simple compared to other old buildings of the town. It has a ground floor, a first floor and an underground.



Fig. 3-42. Elements of *Bagh-e Golshan*

*Bagh-e Golshan* is like a palm grove due to its large number of scattered palms.

Main lines of garden design include two major paths, one upon the entrance pivot and the other inside the garden and at a vertical position upon it. Inside the plots created by garden division, pomegranate and sour orange trees have been planted alternately.

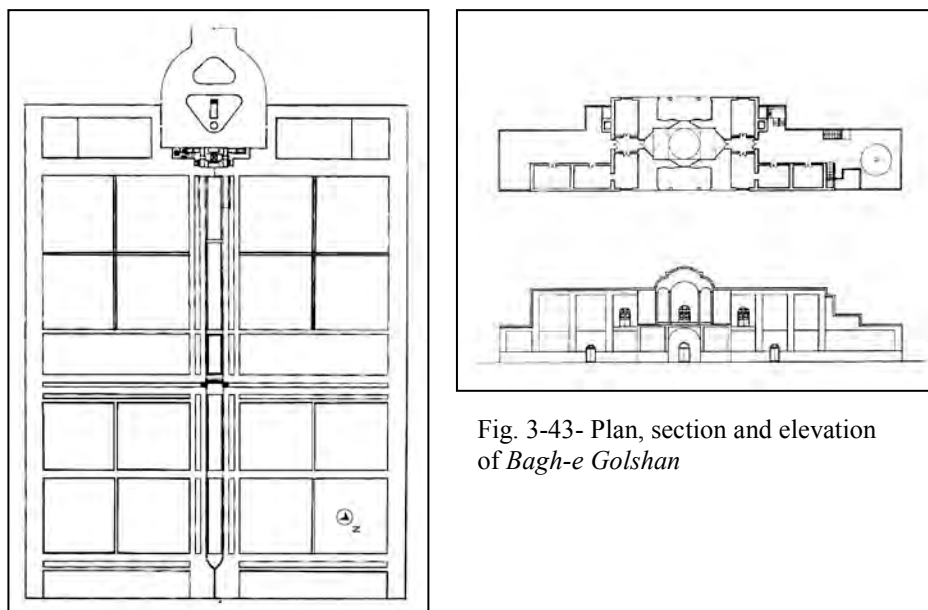


Fig. 3-43- Plan, section and elevation of *Bagh-e Golshan*

*Bagh-e Golshan* is located on a stream created by conjoining the water of several springs coming toward *Tabas*. The stream enters the end of the garden and after irrigating it via jets and waterways exits from beneath the frontispiece bound for *Tabas*. Among features that qualify *Bagh-e Golshan* as a perfect the Persian Garden are: its vegetation which is suitable for local climate, its shadow casting trees, its lovely, enclosed space at the heart of the hot and dry desert as well as its irrigation system. It must be pointed out that the frontispiece has been damaged by the earthquake.

### Conclusion

Yazd region can be considered as part of hot and dry desert areas with constant shortage of water. But it also has lush and beautiful gardens each with unique characteristics inherent in their natural and artificial structure. Among them *Bagh-e Dolat Abad* enjoys all the qualifications of a perfect Persian Garden, even features not seen in its counterparts. In addition, *Bagh-e Pahlavanpur* located in a rural area is a showpiece of Iranian Garden making culture respecting all the principles and systems existing in a typical the Persian Garden. Both gardens serve as samples of urban and rural gardens of Yazd region respectively and can be considered as representatives of Persian Gardens because of respecting authenticity and integrity, continued garden life as well as their perfect characteristics.

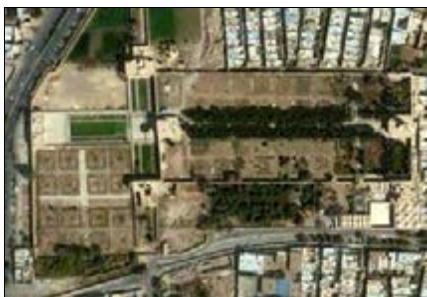


Fig. 3-44. *Bagh-e Dolat Abad*



Fig. 3-45. *Bagh-e Golshan*



Fig. 3-46. *Bagh-e Namir*



Fig. 3-47. *Bagh-e Pahlavanpur*

## Gardens of Kerman province

### *Bagh-e Shahzadeh*

*Bagh-e Shahzadeh* is located at a distance of 35km southeast of Kerman City and a distance of 6 km from *Mahan* Town. It stands on Kerman-Bam roadway near *Jupar Highlands*. This garden was used as a temporary residence for the ruler of Kerman and *Baluchistan* (*Mirza Naseroldoleh Farmanfarma*) and was possibly used for large reception ceremonies.

Among its design characteristics are its location upon the plain slope resulting in an elevation difference of 325m between the highest point of the garden and the frontispiece house.

*Bagh-e Shahzadeh* is quite distinct from its surrounding terrain and shows the intricacy and significance of Persian Gardens in the desert and highlights the difference between them and other gardens of the world.

Materials used in garden buildings are mostly sun dried-bricks or mud-bricks with a plaster of *Kahgel* and gypsum which have been adorned by *Narreh* tiles at spots such as the frontispiece-house. Generally, decorations related to the architecture are observed in the frontispiece-house.

Plants arrangement system has been based on the shadow casting pattern of the garden so that along the main axis of the garden, a shaded section is seen on one side of the route at all hours of the day.

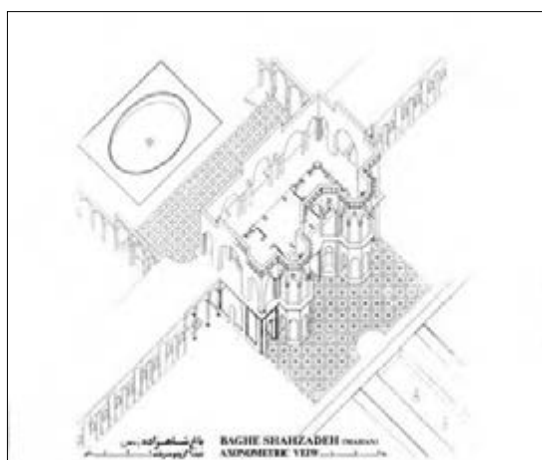


Fig .3-48. Perspective of the pavilion



Fig . 3-49. General view of *Bagh-e Shahzadeh*

Water which is the vital source of life in this garden entering from upper part of the garden and distributed longitudinally in such a way that not only irrigates karts and tree linings along walkways but also utilizes the steep slope of the ground which is one of primary conditions for *Takht* gardens, subsequently it runs upon the main middle axis of the garden in the form of a large stream and on its way creates cascades and jets which make it the principal quality element in the Garden. *Bagh-e Shahzadeh* of Mahan at the time of its construction in the Qajars era was regarded as a pleasure garden as well as a residential one. *Bagh-e Shahzadeh* of Mahan is a sample of *Takht* Persian Gardens which due to its geographical location as well as its usage of innovative methods in dealing with adverse environmental conditions enjoys unique values.

### ***Bagh-e Fath Abad***

*Bagh-e Fath Abad* is located in *Ekhtiar Abad* Village at a distance of 25 km northwest of *Kerman* city. This garden is yet another one of historical and important gardens that has adopted the pattern of *Bagh-e Shahzadeh* of Mahan. The time of the construction of this garden dates to about 1835. It is a relic of Qajars period in remembrance of *Fazl Ali Khan Biglarbeigy*, therefore it is also called *Bagh-e Biglarbeigy's*.



Fig. 3-50. Elements of *Bagh-e Fath Abad*



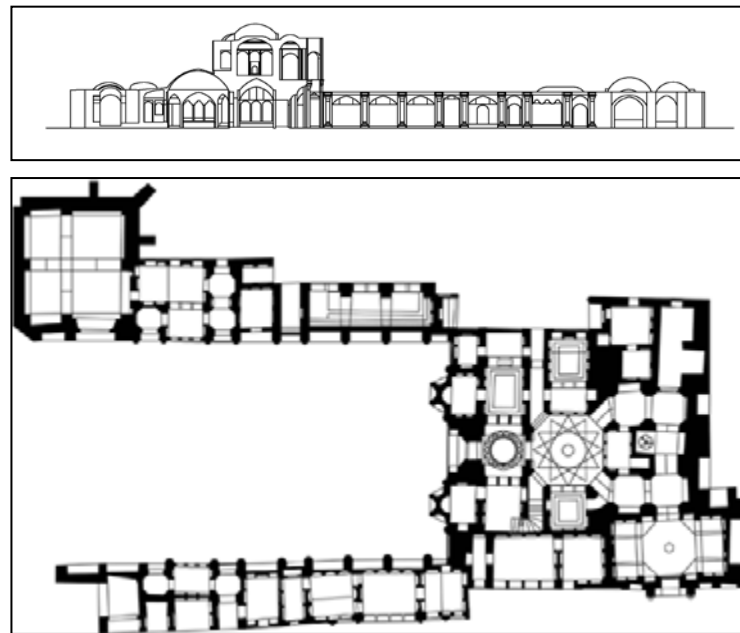


Fig. 3-51. Plan and Section of *Bagh-e Fath Abad*

*Bagh-e Fath Abad* has a central building with 2 floors, and other extensions. Raw materials of buildings are mud-bricks decorated by plaster. Opposite the frontispiece of the garden, a 60 by 5 meters basin with beautiful water jets was designed. In addition, the frontispiece of the building had two floors with vaults on its either sides.

*Biglarbeigy* historical building and garden in *Fath Abad* is among historical gardens whose water is supplied by *Fath Abad Qanat* which was once one of Kerman's famous old Qanats.

At the northern far end of the garden stands the main building of the complex. South of the building are seen traces of a rectangular shaped north to south yard with two water basins at its middle section. At a distance of about thirty meters from the eastern side stands the four season building in one floor and with a square shaped and integrated plan.

Previously, *Bagh-e Fath Abad* was one of the beautiful and green gardens of Kerman and very similar to *Bagh-e Shahzadeh* regarding space, structure and architectural elements. Traces of its vegetation and water system are still visible aiming to create an orchard and a resort in the middle of desert. Unfortunately, its vegetation has been lost over time and serious attention is needed to restore it.

## **Conclusion**

The most important feature for selecting *Bagh-e Shahzadeh* is its position as well as its innovative design which presents a unique type of Persian Gardens called *Takht*. Using a sophisticated technology of *Qanat* is one of its distinct characteristics. It must be pointed out that the irrigation system is one of the most important elements for garden formation and *Bagh-e Shahzadeh* probably enjoys the most ordered water system among other Persian Gardens. Artistic and wise water usage is skillfully displayed in: the manner of water emergence and presence as well as its distribution, respecting technical properties of water and irrigation as well as landscaping from an artistic, architectural and aesthetic point of view.

From a technical point of view, it can be said that the designer of *Bagh-e Shahzadeh* has introduced such exceptional innovative measures in the irrigation system of the garden that not only the goal of watering the whole garden has been fulfilled but also potential qualities that water can generate in a garden have been achieved. For example special arrangements have been enforced to orchestrate a permanent water symphony in the garden as well as the ingenious blending of nine fountains and nine cascades which is considered as one of the most artistic manifestations of garden landscaping in Iran.

On the other hand, there are elements in the garden that seem matchless among all Persian Gardens such as: designating a pine tree in the south of its main building as the focal point for the entire garden geometry, multiple jets with the highest jump of water seen in Persian Gardens as well as other afore-mentioned features. In the end all the above cited points make the inclusion of *Bagh-e shahzadeh* in the nomination list quite justifiable.

## **Gardens of Mazandaran province**

### ***Bagh-e Abas Abad***

The historical complex of *Abas Abad* is located nine km south-east of *Behshar* next to *Ali-Tappeh (Al-Tappeh)* Village inside the dense forest of *Jahan-mura* in *Alborz* highlands. It was built by the order of *Shah Abas* the first around a natural lake and enjoys a step wise and layered architecture.

*Abas Abad* historical complex consists of a garden, a dam, dual brick towers in *Chahar Bagh* compound, a water mill, palace, stone-paved paths and extraordinary waterworks all built by Iranian engineers, artists and architectures living in the Safavids period.

This palace was one of the most famous of Safavids Gardens with an exceptional position overlooking from one side to the sea and from the other side to the jungle.

Based on a clay pipe system, water enters *Chahar Bagh* grounds via waterfalls or fountains and is divided for different purposes.

*Shah Abas* ordered the construction of a formidable dam amid a deep valley behind which a lake was created and its water was delivered to nearby rice fields for summer irrigation. The lake has an area of about ten hectares with an 18m high middle building which is submerged during water intake of the dam with only its roof visible.

Despite several Safavids Gardens still remaining in *Behshar*, *bagh-e Abas Abad* is considered the most perfect garden south of the *Caspian Sea*. The garden is a showpiece of Persian Gardens not in desert but in a humid climate. In fact, *Bagh-e Alqoli* of Tabriz and *Bagh-e Cheshmeh Ali* of Damghan have been adopted as its models.

### ***Bagh-e Aelgoli***

*Shah Goli* (pool) is a beautiful and attractive park located at a distance of 7 km south east of city of Tabriz (but inside its fabric) in Eastern-Azerbaijan province on a foothill.

*Gol* in Turkish language means pool. Therefore, *Shah Goli* means *Shah's* pool. The area of the pool is 54675 square meters. South of the pool, there exists a hill in which steps have been embedded from top to bottom from which a stream flows down. A walkway has been

constructed from its south side as far as the middle of the pool leading to a magnificent two floor building. Old trees have been planted all around the pool with their reflection adding to the garden beauty. The entire southern hills of the pool have been covered by grass and flowers in a delightful manner. No documented information is available about the history of this building. The lake is attributed to *Aq-Qolunlu* kings but it was expanded during the Safavids rule.

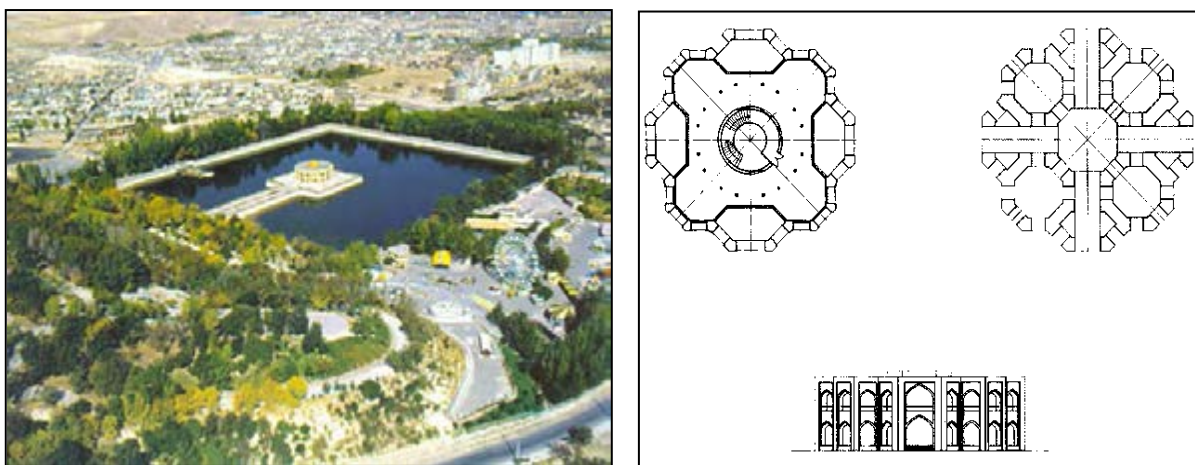


Fig. 3-52. *Bagh-e Aelgoli* and Plan, elevation of pavilion

In 1200 LAH, *Ghahraman Mirza*, the eighth son of *Nayebol Saltane- Abas Mirza* repaired the pool during his rule in Tabriz. He also constructed the two floor building as well as a walkway from the eastern side of the pool to the building and turned the eastern hill into a terraced one with streams and waterfalls flowing at regular intervals. He intended to make the building as his own winter residence but died before the end of its decoration and his sons took it as a bad omen and abandoned the work. Since then only the pool is used as a reservoir for summer irrigation of farms and gardens. (History and geography of *Tabriz-Dar-ol-Saltaneh*)

This building was repaired in spring of 1309 SAH by Tabriz municipality and was turned into a public park. At that time, the pool and the lower floor of this building were still standing.

Although there are some difference in the appearance of *Bagh-e Aelqoli* compared with the Persian garden pattern, exact study of its design shows standard features of Persian garden such as: centrality of the pavilion, regular axes, specific geometrical order, simple and

harmonious combination of natural and artificial elements. Due to a change of ownership and the elimination of some elements, the garden now resembles a public area within which a heritage space is seen.

### ***Bagh-e Ashraf Complex***

In the years 1020-21 lunar AH (1612), *Shah Abbas* founded the town of *Ashraf-ol balad* after his mother whose name was *Ashraf* in the present province of Mazandaran.

*Bagh-e Ashraf* Complex was constructed by conjoining 6 gardens to each other that were separated by stone-walls. The gardens include *Bagh-e Chehel Sotun* and building, *Bagh-e Cheshmeh* and *Tappeh* south east of *Chehel Sotun*, *Bagh-e Khalvat*, *Bagh-e Shomal* and *Bagh-e Saheb al Zaman* west of *Chehel Sotun*.



Fig . 3-53. *Bagh-e Ashraf*

The geometrical order governing most of these gardens are based on a symmetrical axis. Buildings position has been selected in accordance with characteristics of natural setting (forest, foothills and surrounding views such as sea and jungle) which had organized terracing.

On one hand, royal court life considerations such as privacy matters, hunting facilities and the potential for holding formal ceremonies led to the creation of a detailed configuration in these gardens and on the other hand resulted in the generation of other spaces such as the enclosed yard and garden, different buildings and separate gardens which offer a distinct pattern compared with other Safavids Gardens in Qazvin and Isfahan. Their distinction is because of the connection of several gardens, their conformation with land slope and the visual relation between the garden and surrounding landscapes.



Fig. 3-54. Landscape of *Bagh-e Ashraf* (H. Irani Behbahani)

Unfortunately, the peculiar environmental condition of the complex and the Post-Safavids negligence has resulted in great damages which must be studied in detail.

### **Conclusion**

Regarding the humid, mountainous climate of northern Iran on the Caspian Sea shoreline as well as the architectural creativity in making multi functional Persian gardens, it was decided that *Bagh-e Abas Abad* in *Behshar* is a unique and perfect the Persian Garden in wet weather. Not only it has kept its authenticity and integrity and vitality but also has served as a model to expand *Bagh-e Aelqoli* and *Bagh-e Cheshme-Ali*.

## **Gardens of Birjand province**

### ***Bagh-e Akbariyeh***

*Bagh-e Akbarieh* was build in about 1200 LAH at a distance of five kilometers from the main nucleus of Birjand Town and its historical context by a local ruler of *Qahestan* called *Heshmat-ol dowleh*.

At that time gardens such as *Zereshki* had already been built inside the historical nucleus of the town which served for resting purposes.

Initially, *Bagh-e Akbarieh* Complex comprised a main building, a stable and an area full of trees (in line with the axis of the main building) but later complementary spaces were added to it by its founder's heirs.

Due to its original function, *Bagh-e Akbarieh* enjoys a more elaborate architecture compared with other gardens of the region. Therefore, aside its matchless plant variety, its building architecture has added to its significance.

Considering the geometrical system of *Karts* (plots) and the superposition of the entrance axis and the symmetrical pivot of the *Kooshkand* the entrance frontispiece, it is concluded that *Bagh-e Akbarieh* has a pure and regular geometry. Therefore, it can be regarded as an outstanding the Persian Garden.

The garden area is rectangular with a length of 217m and a width of 90m with a north to south direction. Most of its structures are located in its southern section. The western side is shorter than the eastern side which makes the garden to appear generally as a trapezoid in its plan. Like most Persian Gardens, the main axis of it is aligned with the longitudinal symmetrical pivot which is highlighted by two rows of old and tall pines as well as box-trees. Midway through the main axis of the garden, at the end of this path and opposite the main mansion, there exist water basins which not only highlight garden reflection in the water but also emphasize the key role of water in the formation of *Bagh-e Akbarieh*.

The water allocated to *Bagh-e Akbarieh* is supplied from a *Qanat* with the same name.

Some water was stored in the basin at the back of the building. Basin water was used for two reasons: firstly to produce a more lovely and freshening environment particularly when it was full and secondly, to use the stored water for irrigation of vegetables or summer crops which

were occasionally planted during spring and summer seasons between tree lines of the garden. Formerly, *Bagh-e Akbarieh* was intended for excursion purposes and was designed to receive noble guests but given its architectural form and utilization manner it is classified as a garden-pavilion. Because of adopting the pattern of the Persian Garden regarding its architectural design, vegetation and water system as well as respecting authenticity and integrity, *Bagh-e Akbarieh* can be considered as a representative of South Khorasan Gardens.

### ***Bagh-e Rahim Abad***

*Bagh-e Rahim Abad* Complex of Birjand is located at a distance of 1.5 km from *Akbaryeh*. *Bagh-e Rahim Abad* was built by *Ismail Khan Shokat Olmolk*, son of *Heshmat-olmalek* and was used as a governmental base. *Ismail Khan* was the ruler of Birjand and *Ghaen* in the year 1315 LAH which is also the date of construction of the complex. *Bagh-e Rahim Abad* has two entrances. These two entrances are not far from each other. On the whole, this complex comprises the following parts:

1- Garden 2- Stable 3- warehouses 4- The single entrance building 5- pool 6- The main building

In the ground floor of the northern building, there are no decorations. So possibly was used as a warehouse. On the first floor room called the mirrors hall, stuccoes shaped as the head of animals or flowers and plants as well as various arabesques are seen.

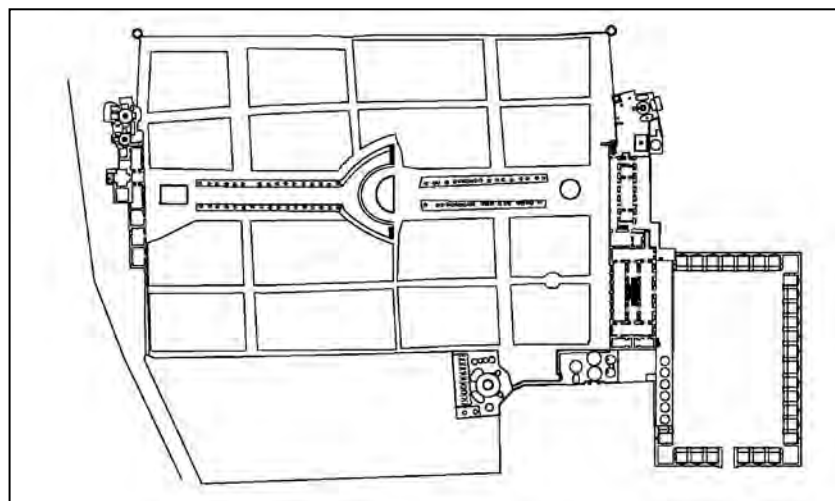


Fig. 3-55. Plan of *Bagh-e Rahim Abad*



*Bagh-e Rahim Abad*, like most other Persian Gardens has a main axis and at the beginning and the end of this axis are located buildings that specify the beginning and the end of the garden. This axis can be considered as the focal point of total geometry of garden. Rows of Cypress trees alongside the axis create visual attraction also at the beginning and end of the garden. There isn't any water flow inside the garden. Only basins have been built in front of building and pavilion. A half-circular pond stands in the open space of mid-garden and in this section of the garden level difference with garden grounds has been solved by installing three steps.



Fig . 3-56. Features of *Bagh-e Rahim Abad*

*Bagh-e Rahim Abad* is fed by a *Qanat* with the same name which is still flowing. Subterranean water overflow splashed into a pool that was outside the garden and ran toward the garden. *Qanat* water first entered a basin located in front of the southern pavilion of garden and then was driven into garden plots and the lower basins. Trees of the garden are cedars as well as fruit trees such as apricot, apple and pomegranate. Values existing in water system and garden vegetation aimed at spatial coordination of *Bagh-e Rahim Abad* with the Persian Garden principles are quite noteworthy.

***Bagh-e Shokat Abad***

Architectural spaces created in the garden and building of *Shokat Abad* enjoy special features that are not found very much in its parallels. Therefore, the space making was conducted according to a specific coordination which indicates a predefined plan and map for the construction of this building.

On the whole, buildings constructed were compact. The southern front was allocated for the ruler and his family and some of internal spaces were used for holding ceremonies and for entertaining guests.

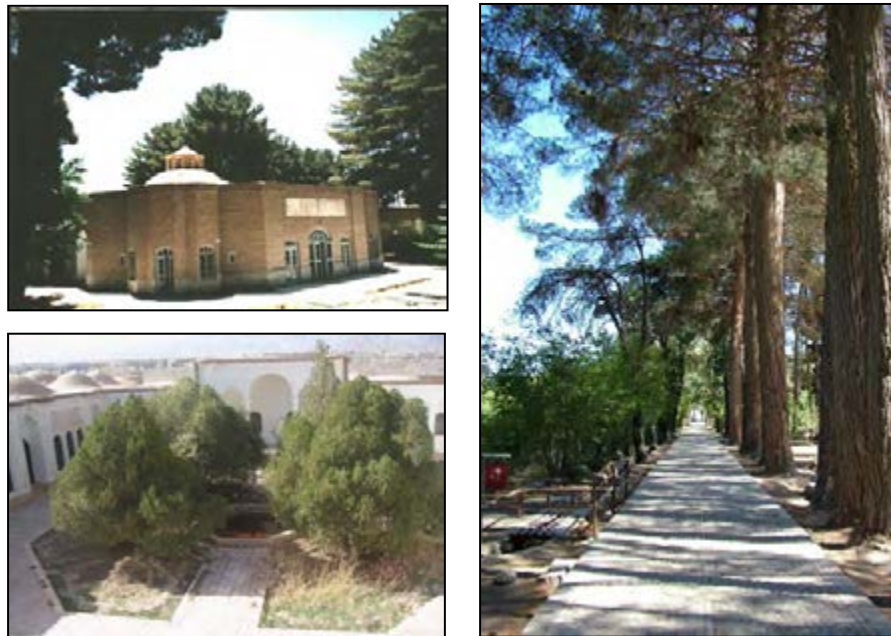


Fig. 3-57. Features of *Bagh-e Shokat Abad*

This wide section has different fruit and decorative trees. Architectural construction methods used in the main building are in the form of cloister vaults in addition cradle-like ceilings of some rooms shows usage of architectural methods specific to warm and dry areas. Some of the spaces created in the corner of the main building are those which later have been added to it as required.

Generally, the uniform building constructed in the southern front of *Bagh-e Shokat Abad* is a longitudinal one with an eastern - western direction. The middle of the facade of the building

has come out of the main part creating a beautiful octagon in the façade. Such geometrical form has been repeated at main corners of the octagon.

Among other interesting characteristics of the building is the interconnection of internal spaces which has been achieved via corridors.

Values taken from the Persian Garden pattern in particular regarding the vegetation system and its art and architecture have turned *Bagh-e Shokat Abad* into an admirable example but due to modern development at present a new system of irrigation is utilized in the garden.

### **Conclusion**

Birjand is a region with more than eighteen valuable gardens belonging to various types of Persian gardens but among all the gardens existing there, *Bagh-e Akbariyeh* is considered as a unique complex enjoying special artistic and architectural characteristics as well as a perfect water system and continuous vitality. Therefore, it has been selected as the best sample existing in south Khorasan area.



Fig. 3-58. *Bagh-e shokat abad*



Fig. 3-59. *Bagh-e Akbariyeh*



Fig. 3-60 . *Bagh-e Rahim Abad*

### **3.c.2. The comparative analysis of the Persian Garden with gardens outside Iran**

The Persian Garden is considered as the masterpiece of human ingenuity in creating an ideal environment also known as paradise on earth. Additionally, since its inception more than 2500 years ago, the Persian Garden has witnessed cultural, technical, conceptual and engineering relations with cultures, nations and civilizations near or faraway.

In this section of the dossier concerning the nomination of the Persian Garden to be enlisted as a world heritage, a comparison is made between this extraordinary phenomenon of the human history with various types of gardens and garden making in different culture and civilization realms of the world, namely:

Islamic Gardens: Mongolian –Spanish

Oriental Gardens: Chinese and Japanese

European Gardens: Italian-French-English

Others: Ancient Gardens of Sigiriya

## **Description of the Islamic Garden**

The Holy *Quran* has many references to gardens and the garden is used as an earthly analogue for the life in paradise which is promised to believers.

Allah has promised to the believing men and the believing women gardens, beneath which rivers flow, to abide in them, and goodly dwellings in gardens of perpetual abode; and best of all is Allah's goodly pleasure; that is the grand achievement<sup>4</sup>

The Achaemenids tradition of gardening became the foundation of much of the garden traditions of Islam, and later on of Europe. Examples of the paradise garden and its derivatives can be seen today in many of the historic gardens of Islamic and European countries. In the east, the Persian Garden gave rise to the Mughul gardens of India, a late example of which is the grounds of the *Taj Mahal* at *Agra*. In the farthest west, it is best known by the paved and tiled courtyards with arcades, pools and fountains of *Moorish Andalusia*. They are used as the main design for the Versailles gardens that almost replicate the outlines of *paradisio* gardens of *Pasargadae* and as inspiration for the gardens at the Louvre. There are surviving Islamic gardens in a wide zone extending from Spain and Morocco in the west to India in the east. Famous Islamic Gardens include the grounds of *Taj Mahal* in India and the *Generalife* gardens in Spain.

The general theme of a traditional Islamic Garden is water and shade, not surprisingly since Islam came from and is generally spread in such a hot and arid climate. Four water canals typically carry water into a central pool or fountain, the four streams symbolizing the four main elements of life. The four streams may also be interpreted as the four rivers in *Paradise*, filled with milk, honey, wine and water. Such a four-fold garden is also called a *chahar Bagh*. These gardens portray images of paradise.

introducing Indian and Spanish Islamic Gardens as two remarkable styles in Islamic gardening is as follow:

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<sup>4</sup> Holy Quran 9.72 [http://islamispiece.org.uk/itm.php?id\\_top=27](http://islamispiece.org.uk/itm.php?id_top=27)

## **Indian Gardens**

The oldest evidence for the existence of gardens in India comes from literary sources. Sacred works, including the *Ramayana* and the *Kama Sutra*, have detailed accounts of gardens but no physical examples have survived from this period. The dwellings to which they belonged were built in mud and timber which have rotted away and washed away.

The oldest Indian palace from which fragments survive is at *Vijayanagara*. It had courtyards surrounded by residential buildings and must have had fruit and vegetable gardens, as well.

With the start of Muslim influence on India, residential buildings began to be built in stone. Most were hilltop fortresses with little space for ornamental horticulture. Most probably employing Hindu craftsmen, the Muslims built mosques, forts, palaces and gardens in what became known as the Mughul (or Mughul or Mongol style). The strongest influence on the surviving examples was the Timurid gardens (in modern Uzbekistan), themselves strongly influenced by Persian Gardens. As in other Islamic Gardens, the characteristic features are: (1) a boundary wall (2) a geometrical layout (3) a crossing pattern of canals. The most famous Mughul gardens are the *Taj Mahal*, the *Red Fort* in Delhi, *Agra Fort* and *Humayun's Tomb Garden*.<sup>5</sup>

## **Islamic Gardens in India**

As we said above there are surviving Islamic Gardens in a wide zone extending from Spain and Morocco in the west to India in the east. Famous Islamic Gardens include the grounds of *Taj Mahal* in India and the *Generalife* gardens in Spain. So here we're going to introduce Mughul gardens and particularly *Taj Mahal* to evaluate Islamic Gardens in India.

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<sup>5</sup> <http://whc.unesco.org/>.

## Mughul Gardens

Mughul gardens are a group of gardens built by the Mughuls in the Islamic style of architecture. This style was influenced by Persian Gardens and Timurid gardens. Significant use of rectilinear layouts is made within the walled enclosures. Some of the typical features include pools, fountains and canals inside the gardens.<sup>6</sup>

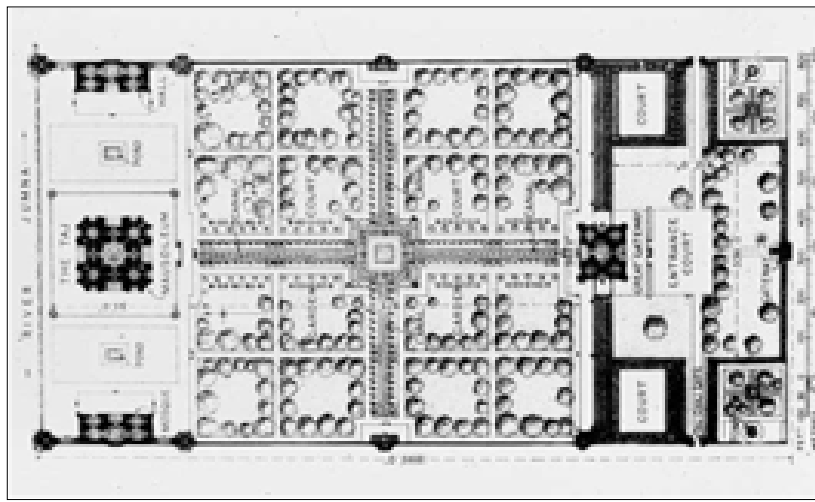


Fig. 3-61. Plan of Taj Mahal

## Taj Mahal

An immense mausoleum of white marble, built in *Agra* between 1631 and 1648 by order of the Mughul emperor *Shah Jahan* in memory of his favorite wife, the *Taj Mahal* is the jewel of Muslim art in India and one of the universally admired masterpieces of the world's heritage.<sup>7</sup> The *Taj Mahal* (also "the *Taj*") is considered the finest example of Mughul architecture, a style that combines elements from Persian, Indian, and Islamic architectural styles. In 1983, the *Taj Mahal* became a UNESCO World Heritage Site and was cited as:

"the jewel of Muslim art in India and one of the universally admired masterpieces of the world's heritage."<sup>8</sup>

<sup>6</sup> <http://whc.unesco.org/>.

<sup>7</sup> <http://whc.unesco.org/>.

<sup>8</sup> Parween, Hassan (1994); "Review of Mughul Architecture: Its outline and its history".



Fig. 3-62. Taj Mahal, Garden and the tomb

### **Origins and architecture of the Taj Mahal**

In 1631, *Shah Jahan*, emperor during the Mughul empire's period of greatest prosperity, was grief stricken when his third wife, *Mumtaz Mahal*, died during the birth of their fourteenth child<sup>9</sup>. Construction of the *Taj Mahal* began in 1632, one year after her death.<sup>10</sup> The principal mausoleum was completed in 1648 and the surrounding buildings and garden were finished five years later.

### **Mumtaz Mahal**

In 1607 A D (1025 AH) the Mughul Prince *Khurram* (later to become *Shah Jahan*) was betrothed to *Arjumand Banu Begum*, the granddaughter of a Persian noble. She would become the unquestioned love of his life. They were married five years later in 1612 A D (1021 AH). After their wedding celebrations, *Khurram* "finding her in appearance and character elect among all the women of the time," gave her the title *Mumtaz Mahal* (Jewel of the Palace).<sup>11</sup>

The *Taj Mahal* incorporates and expands on design traditions of Persian architecture and earlier Mughul architecture<sup>12</sup>. While earlier Mughul buildings were primarily constructed of red sandstone, *Shah Jahan* promoted the use of white marble inlaid with semi-precious stones, and buildings under his patronage reached new levels of refinement.<sup>13</sup>

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<sup>9</sup> Taj Mahal History". <http://www.ourworldwonders.com/TajMahal/History.htm>

<sup>10</sup> Chaghtai, Mohammad Abdullah (1938); "Le Tadj Mahal D'Agra (Hindi)", Page: 46.

<sup>11</sup> Koch, Ebba (Hardback); "The Complete Taj Mahal: And the Riverfront Gardens of Agra", Page:18.

<sup>12</sup> Chaghtai, Mohammad Abdullah (1938); "Le Tadj Mahal D'Agra (Hindi)", Page:46.

<sup>13</sup> Copplestone, Trewin. (ed). (1963); "World architecture — An illustrated history", Page:166.



## Architecture

### The tomb

The central focus of the complex is the tomb. This large, white marble structure stands on a square plinth and consists of a symmetrical building with an *Iwan* (an arch-shaped doorway) topped by a large dome and finial. Like most Mughul tombs, the basic elements are *Persian* in origin.

The base structure is essentially a large, multi-chambered cube with chamfered corners, forming an unequal octagon that is approximately 55 meters on each of the four long sides. On each of these sides, a massive *Pish-Taq*, or vaulted archway, frames the *Iwan* with two similarly shaped, arched balconies stacked on either side. This motif of stacked *Pish-Taqs* is replicated on the chamfered corner areas, making the design completely symmetrical on all sides of the building. Four minarets frame the tomb, one at each corner of the plinth facing the chamfered corners. The main chamber houses the false sarcophagi of *Mumtaz Mahal* and *Shah Jahan*; the actual graves are at a lower level.

The marble dome that surmounts the tomb is the most spectacular feature. Its height of around 35 meters is about the same as the length of the base, and is accentuated as it sits on a cylindrical "drum" which is roughly 7 meters high. Because of its shape, the dome is often called an onion dome or *Amrud* (guava dome). The top is decorated with a lotus design, which also serves to accentuate its height. The shape of the dome is emphasized by four smaller domed *Chattris* (kiosks) placed at its corners, which replicate the onion shape of the main dome. Their columned bases open through the roof of the tomb and provide light to the interior. Tall decorative spires (*Guldastas*) extend from edges of base walls, and provide visual emphasis to the height of the dome. The lotus motif is repeated on both the *Chattris* and *Guldastas*. The dome and *Chattris* are topped by a gilded finial, which mixes traditional Persian and Hindu decorative elements.

The main finial was originally made of gold but was replaced by a copy made of gilded bronze in the early 19<sup>th</sup> century. This feature provides a clear example of integration of traditional Persian and Hindu decorative elements. The finial is topped by a moon, a typical Islamic motif whose horns point heavenward. Because of its placement on the main spire, the

horns of the moon and the finial point combine to create a trident shape, reminiscent of traditional Hindu symbols of Shiva.<sup>14</sup>

The minarets, which are each more than 40 meters tall, display the designer's penchant for symmetry. They were designed as working minarets a traditional element of mosques, used by the muezzin to call the Islamic faithful to prayer. Each minaret is effectively divided into three equal parts by two working balconies that ring the tower. At the top of the tower is a final balcony surmounted by a *Chattri* that mirrors the design of those on the tomb. The *Chattris* all share the same decorative elements of a lotus design topped by a gilded finial. The minarets were constructed slightly outside of the plinth so that, in the event of collapse, (a typical occurrence with many tall constructions of the period) the material from the towers would tend to fall away from the tomb.

### **Exterior decoration**

The exterior decorations of the *Taj Mahal* are among the finest to be found in Mughul architecture. As the surface area changes the decorations are refined proportionally. The decorative elements were created by applying paint, stucco, stone inlays, or carvings. In line with the Islamic prohibition against the use of anthropomorphic forms, the decorative elements can be grouped into either calligraphy, abstract forms or vegetative motifs.

Throughout the complex, passages from the Holy *Quran* are used as decorative elements. Recent scholarship suggests that the passages were chosen by *Amanat Khan*.<sup>15</sup>

The calligraphy on the Great Gate reads:

"O Soul, thou art at rest. Return to the Lord at peace with Him, and He at peace with you."

The calligraphy was created by the Persian calligrapher *Abd ul-Haq*, who came to *India* from Shiraz, Iran, in 1609. *Shah Jahan* conferred the title of "*Amanat Khan*" upon him as a reward for his "dazzling virtuosity". Retrieved 22 may 2009. Near the lines from the Holy *Quran* at the base of the interior dome is the inscription, "Written by the insignificant being, *Amanat Khan Shirazi*." Much of the calligraphy is composed of florid *Thuluth* script, made of jasper

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<sup>14</sup> Tillitson, G.H.R. (1990); "Architectural Guide to Mughul India".

<sup>15</sup> Koch, Ebba (Hardback); "The Complete Taj Mahal: And the Riverfront Gardens of Agra", Page:100.

or black marble, inlaid in white marble panels. Higher panels are written in slightly larger script to reduce the skewing effect when viewed from below. The calligraphy found on the marble cenotaphs in the tomb is particularly detailed and delicate.<sup>16</sup>

### **The garden**

The complex is set around a large 300-meter square *Chahar Bagh* or Mughul Garden. The garden uses raised pathways that divide each of the four quarters of the garden into 16 sunken parterres or flowerbeds. A raised marble water tank at the center of the garden, halfway between the tomb and gateway with a reflecting pool on a north-south axis, reflects the image of the mausoleum. The raised marble water tank is called *al Hawd al-Kawthar*, in reference to the "Tank of Abundance" promised to *Mohammad*<sup>17</sup>. Elsewhere, the garden is laid out with avenues of trees and fountains<sup>18</sup>. The *Chahar Bagh*, a design inspired by Persian Gardens, was introduced to India by the first Mughul emperor, Babur. It symbolizes the four flowing rivers of *Jannah* (Paradise) and reflects the Paradise Garden derived from the Persian *paridazea*, meaning "walled garden". In mystic Islamic texts of Mughul period, Paradise is described as an ideal garden of abundance with four rivers flowing from a central spring or mountain, separating the garden into north, west, south and east.<sup>19</sup>



Fig. 3-63. Walk ways beside reflecting pool

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<sup>16</sup> Anon. "The Taj mahal". Islamic architecture. Islamic Arts and Architecture Organization. [http://www.islamicart.com/library/empires/india/taj\\_mahal.html](http://www.islamicart.com/library/empires/india/taj_mahal.html). Retrieved 22 may 2009.

<sup>17</sup> Begley, Wayne E. (1979); "The Myth of the Taj Mahal and a New Theory of Its Symbolic Meaning".

<sup>18</sup> Ruggles, D. Fairchild (2008); "Islamic Gardens and Landscape", Pages: 117-129 .

<sup>19</sup> Ibid. Pages: 117-129.

Most Mughul *Chahar Baghs* are rectangular with a tomb or pavilion in the center. The *Taj Mahal* garden is unusual in that the main element, the tomb, is located at the end of the garden. With the discovery of *Mahtab Bagh* or "Moonlight Garden" on the other side of the *Yamuna*, the interpretation of the Archaeological Survey of India is that the *Yamuna* river itself was incorporated into the garden's design and was meant to be seen as one of the rivers of Paradise<sup>20</sup>. The similarity in layout of the garden and its architectural features with the *Shalimar* gardens suggest that they may have been designed by the same architect, *Ali Mardan*<sup>21</sup>. Early accounts of the garden describe its profusion of vegetation, including abundant roses, daffodils, and fruit trees<sup>22</sup>. As the Mughul Empire declined, the tending of the garden also declined, and when the British took over the management of *Taj Mahal* during the time of the British Empire, they changed the landscaping to resemble that of lawns of London.<sup>23</sup>

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<sup>20</sup> Wright, Karen (2000); "Moguls in the Moonlight — plans to restore Mehtab Bagh garden near Taj Mahal".

<sup>21</sup> Allan, John ; "The Cambridge Shorter History of India", Page:318.

<sup>22</sup> The Taj by Jerry Camarillo Dunn Jr.

<sup>23</sup> Koch, Ebba (Hardback), "The Complete Taj Mahal: And the Riverfront Gardens of Agra", Page:139.

**Shalimar Gardens (Lahore)<sup>24</sup>**

Date of Inscription in world heritage: 1981

The *Shalimar* gardens, sometimes written *Shalamar* gardens, is a Persian Garden and it was built by the Mughul emperor *Shah Jahan* in Lahore, modern day Pakistan. Construction began in 1641 A.D. (1051 A.H.) and was completed the following year.<sup>25</sup>

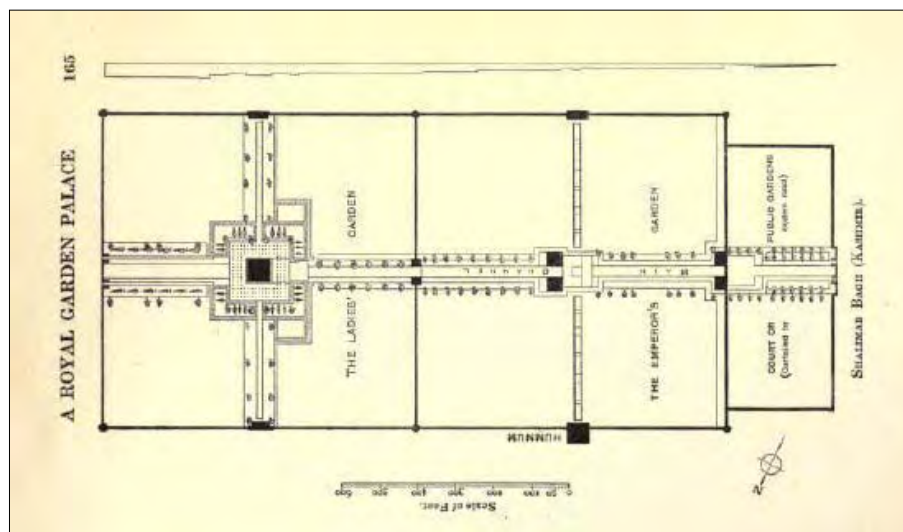


Fig. 3-64. Plan of Shalimar Garden

**Fort and Shalimar Gardens in Lahore****Brief Description**

These are two masterpieces from the time of the brilliant Mughul civilization, which reached its height during the reign of the Emperor *Shah Jahan*. The fort contains marble palaces and mosques decorated with mosaics and gilt. The elegance of these splendid gardens, built near the city of Lahore on three terraces with lodges, waterfalls and large ornamental ponds, is unequalled.<sup>26</sup>

*Shalimar* gardens like Lahore Fort bears an exceptional testimony to the brilliant Mughal civilization. Created by the *Shah Jahan* (1627-1658) in 1641-1642, they extend 5kms to the

<sup>24</sup> <http://whc.unesco.org/>.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

north-east of the city of Lahore the length of the Royal Canal, *Nadar Shah*, which had been constructed before by the governor of the city *Ali Mardan Khan*.



Fig. 3-65. Shalimar Garden

These marvelous gardens spread over 16 hectares and are arranged in three traces descending from the south to the north. The plan is a regular one, cut into square beds on the upper and lower terraces and into elongated blocks the narrower, intermediate terrace. Within the decor of this artificial landscape a crenellated enclosing wall of red sandstone and elegant pavilions balance the harmoniously arranged planting of the poplars and cypresses, reflected in the vast basins of water. Although, since the fall of the Mughul dynasty in the 18<sup>th</sup> century, *Shalimar* gardens has bitterly suffered from pillage and from the weathering of natural forces & their recent state in no way bars the possibility of their inclusion on the World Heritage List. A plan of restoration and preservation established in 1972 was put into effect 1973. If, in accordance with the recommendations of ICQWS, that Shalimar Gardens be included on the World Heritage List based on.

**Criterion III:** they bear in fact, exceptional testimony to the vanished Mughul civilization at its F-k- it would be appropriate as well to set into motion the necessary procedures for its inclusion on the World Heritage List of endangered properties.<sup>27</sup>

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<sup>27</sup> Ibid.

## **Comparative analysis on Persian Garden, Taj Mahal and Shalimar gardens**

### **(Mughul Gardens)**

Mughul gardens are a group of gardens built by the Mughuls in the Islamic style of architecture. This style was influenced by Persian Gardens which can be seen in the significant use of rectilinear layouts within the walled enclosures. The *Taj Mahal* is considered the finest example of Mughul architecture, a style that combines elements from Persian, Indian, and Islamic architectural styles. *Taj Mahal* incorporates and expands on design traditions of Persian architecture and earlier Mughul architecture.

### **Persian features in architecture and decorations**

Influences of Persian architecture are very easy to see all around *Taj Mahal* tomb and garden. The central focus of the complex is the tomb. This large, white marble structure stands on a square plinth and consists of a symmetrical building with an *Iwan* (an arch-shaped doorway) topped by a large dome and finial. Like most Mughul tombs, the basic elements are Persian in origin.

### **Decorations**

Also there are many clear examples of Persian decorative elements integrated with Hindu ones. The lotus motif is repeated on both the *Chattris* and *Guldastas*. The dome and *Chattris* are topped by a gilded finial, which mixes traditional Persian and Hindu decorative elements. The main finial was originally made of gold but was replaced by a copy made of gilded bronze in the early 19<sup>th</sup> century. This feature provides a clear example of integration of traditional Persian and Hindu decorative elements.

### **Calligraphy**

The calligraphy on the Great Gate reads:

"O Soul, thou art at rest. Return to the Lord at peace with Him, and He at peace with you."

The calligraphy was created by the Persian calligrapher *Abd ol-Haq*, who came to India from Shiraz, Iran, in 1609. *Shah Jahan* conferred the title of "*Amanat Khan*" upon him as a reward for his "dazzling virtuosity". Near the lines from the Holy *Quran* at the base of the interior dome is the inscription, Written by the insignificant being, *Amanat Khan Shirazi*.

### **Colors**

By building structures that employed such color coding, the Mughuls identified themselves with the two leading classes of Indian social structure and thus defined themselves as rulers in Indian terms. Red sandstone also had significance in the Persian origins of the Mughul Empire where red was the exclusive color of imperial tents. In the *Taj Mahal* the relative importance of each building in the complex is denoted by the amount of white marble (or sometimes white polished plaster) that is used.

### **Architects and artists**

A labor force of twenty thousand workers was recruited across northern India. Sculptors from Bukhara, calligraphers from Syria and Persia, inlayers from southern India, stonecutters from *Baluchistan*, a specialist in building turrets, another who carved only marble flowers were part of the thirty-seven men who formed the creative unit. Some of the builders involved in construction of *Taj Mahal* are:

- *Ustad Isa* and *Isa Mohammad Effendi* of Persia '*Puru*' from Benarus, Persia - has been mentioned as a supervising architect.
- *Amanat Khan* from Shiraz, Iran - the chief calligrapher.
- *Mir Abdul Karim* and *Mukkarimat Khan* of Shiraz - handled finances and management of daily production.

### **Mumtaz Mahal**

*Taj Mahal* is known as the symbol of love in the world. This building and garden has been dedicated to the loving wife of *Shah Jahan*, *Mumtaz Mahal*. Now it would be interesting to



know that she was an Iranian woman. In 1607 AD (1025 AH) the Mughul Prince *Khurram* (later to become *Shah Jahan*) was betrothed to *Arjumand Banu Begum*, the granddaughter of a Persian noble. She would become the unquestioned love of his life. They were married five years later in 1612 AD (1021 AH). After their wedding celebrations, *Khurram* "finding her in appearance and character elect among all the women of the time," gave her the title *Mumtaz Mahal* (Jewel of the Palace).<sup>28</sup>

### **Garden**

The complex is set around a large 300-meter square *Chahar Bagh* or Mughul garden. This pattern is known as a totally Iranian one all over the world. The *Chahar Bagh*, a design inspired by Persian Gardens, was introduced to India by the first Mughul emperor, Babur. It symbolizes the four flowing rivers of *Jannah* (Paradise) and reflects the Paradise garden derived from the Persian *Paridaeza*, meaning "walled garden". In mystic *Islamic* texts of Mughul period, Paradise is described as an ideal garden of abundance with four rivers flowing from a central spring or mountain, separating the garden into north, west, south and east.

*Hasht Behesht* is also a considerable form based on *Chahar Bagh* system in Iran. The favored form of both Mughul Garden pavilions and mausolea (seen as a funerary form of pavilion) was the *Hasht Behesht* which translates from Persian as 'eight paradises'. These were a square or rectangular planned buildings with a central domed chamber surrounded by eight elements. Later developments of the *Hasht Behesht* divided the square at 45° angles to create a more radial plan which often also includes chamfered corners; examples of which can be found in *Todar Mal's Baradari* at *Fatehpur Sikri* and *Humayun's Tomb*.

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<sup>28</sup> Koch, Ebba (Hardback); "The Complete Taj Mahal: And the Riverfront Gardens of Agra", Page: 288.

By the time the Mughuls built the *Taj*, though proud of their Persian and Timurid roots, they had come to see themselves as Indian. *Copplestone* writes:

"Although it is certainly a native Indian production, its architectural success rests on its fundamentally Persian sense of intelligible and undisturbed proportions, applied to clean, uncomplicated surfaces."

### **Shalamar garden (Lahore)**

*Shalamar* garden is completely a Persian Garden out of current borders of Iran. The obvious geometry of *Chahar Bagh*, system of planting and water regulation and precise axis in this garden can truly show this relationship.

### **Environment**

But this is considerable to know that the Indian Gardens like *Shalamar* and *Taj Mahal* have been located in a green environment and this is just their geometry that makes them different with their environment because both garden and environment are green and prosperous, but Persian Gardens is completely different and distinct from its environment though it looks like a green point in an empty arid desert environment.

### **Water sources**

Also *Qanat* has not been used in Indian Gardens and the water is provided with the wells and rivers. So we can see that in Indian lands, water is simply accessible while it has been always a vital matter in Persian Gardens and needed much more thought and endeavor to reach the water and take it to the garden that makes Iranians invent *Qanat* technology.

### **Plants**

The other important difference between Persian and Indian Gardens is about the function and meaning of plants and trees. Shading is a very vital point about trees in Persian Gardens because of the very hot sun, but it is not considered in Indian countries. Also taking care of

plants in the arid nature of Iran is a great matter of fact that makes the garden very distinctive from its environment in opposite of Indian gardens that are green like their settings.

### **Islamic Gardens in Spain**

Spain has a long tradition of making gardens. One kind of significant gardens were made by the Islamic rulers of southern Spain, for example the *Alhambra* and the *Palmeral* of *Elche*.

In 711 A.D the Syrian Arabs invaded Spain. They continued to rule Granada when the northern provinces were lost to them. They maintained control of southern Spain until 1492. The nomads from the desert soon fell in love with the less harsh climate of Spain. The Arabs brought with them their respect for the Persian Gardens. The Spanish inherited many aspects of the Persian Gardens including the concern for the conservation of water. They too enjoyed cool environment surrounding a quite pool of water. The Spanish were able to create the same conjured songs of running water.<sup>29</sup> Garden of Alhambra palace should be absolutely concerned to represent this kind of gardens in Spain.

### **The palace of Alhambra in Granada, Spain**

In Granada the Arab influences is unchanged. The construction of the *Alhambra* palace began in 1377. The original garden had orange trees supporting the corners that were separating by four small canals that run from the central fountain.<sup>30</sup>

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<sup>29</sup> [http://islamispiece.org.uk/itm.php?id\\_top=27](http://islamispiece.org.uk/itm.php?id_top=27)

<sup>30</sup> Ibid.

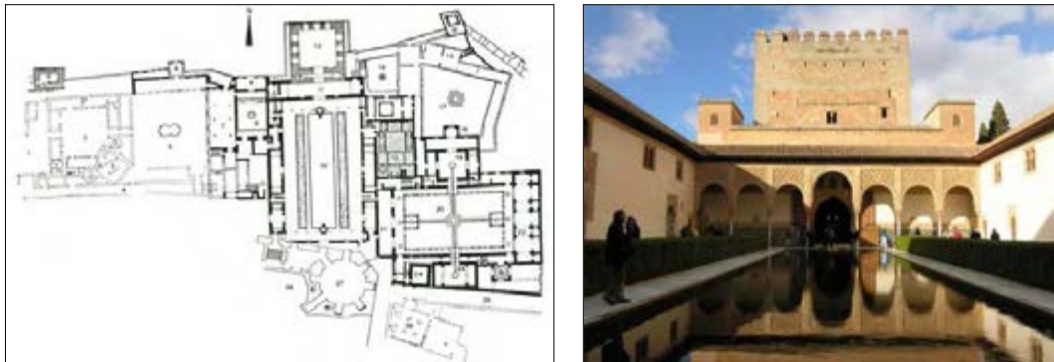


Fig. 3-66. Alhambra, Plan and View

The *Alhambra*, the complete form of which was *Calat Alhambra*, is a palace and fortress complex of the Moorish rulers of Granada in southern Spain (known as *Al-Andalus* when the fortress was constructed during the mid 14<sup>th</sup> century), occupying a hilly terrace on the southeastern border of the city of Granada.

Once the residence of the Muslim rulers of Granada and their court, the *Alhambra* is now one of Spain's major tourist attractions exhibiting the country's most famous Islamic architecture, together with Christian 16<sup>th</sup> century and later interventions in buildings and gardens that marked its image as it can be seen today.<sup>31</sup>

### **History**

After the disappearance of the caliphate of Cordoba (1231), the south of Spain splintered into a series of small independent Muslim states, *Taifas* realms, of which several important centers of civilization. The ephemeral *Zirid* Emirate of *Gharnta* (Granada), founded after 1010 by the Chief of a Berber tribe, was one of these until 1090, the Emirs devoted themselves to the embellishment of their capital, construction a site of exceptional beauty, known and inhabited since Antiquity.

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<sup>31</sup> Ruggles, D. Fairchild (2008); "Islamic Gardens and Landscape", Pages: 153-155 .

But Grenada did not really one of the important centers of Muslim Spain until much later: having been the stronghold from 1090 to 1156 of the *Almoravides* governors, and having passed at that date to the *Almohades*, the city finally came into the heritage of *Cordoba*, when the latter fell to the Christians in 1236. In 1238, *Mohammad Ibn al Ahmar*, founded the present *Alhambra*. Until its fall, in 1492, the nasrid dynasty continued to inhabit, to enlarge, to embellish and to restore this royal city.

Both fortress and residence, the *Alhambra* (in Arab: the red) incorporates palaces, guard room, patios and gardens as well as workshops, shops, baths and mosque (independently of the church of Santa Maria built in the 16<sup>th</sup> century on the site of the royal mosque, during the period when the construction of a great Renaissance palace under Charles V was abandoned). It is enclosed by a massive fortified wall of more than 2 kilometers, with towers, extended to the south-west by an outwork, the *Torres Bermjas*.

The palace, undertaken at the end of the 13<sup>th</sup> century, essentially completed in the 14<sup>th</sup> century by *Yusuf I* (1333-1354) and his son *Mohammad V* (1353-1391). It is organized around two rectangular courts, the *Patio de Los Arrayanes* (or the Court of Myrtles) and the *Patio de Los Leones* (or the Court of Lions) and includes a large number of rooms of a highly refined taste.

Marble columns, stalactite cupolas, ornamental works in stucco where the calligraphy of the inscriptions completes the abstract network of the entrances and the arabesques, gaily colored *Azulejos*, precious mod inlayed and sculpted, and paintings on leather compete with the richness and the delicacy of the natural décor: the water, still and sparkling in immense basins (Court of Myrtles), flows out into the basins of the fountains (the circular fountain of the Court of Lions), glides through narrow canals (Fall of the two Sisters), and explodes into fountain or falls in refreshing cascades.

At a short distance to the east of the *Alhambra*, the enchantment is extended to the gardens of the generalize (*Djannat al Arif*), rural residence of the Emirs. The relationship between the architectural and the natural has been reversed here, where gardens and water predominate over the pavilions, summerhouses and living quarters. The massive boxwood trees, rose, carnation and gully flower bushes, shrubs which range from the willow to the cypress,

comprise an absolute masterpiece of the art of horticulture, by restoring the *Qoranic* image of paradise to the believers.<sup>32</sup>



Fig. 3-67. Alhambra, Court of the Lions

### **Court of the Lions**

The *Patio de los Leones* (Court of the Lions) is an oblong court, 116 ft (35 m) in length by 66 ft (20 m) in width, surrounded by a low gallery supported on 124 white marble columns. A pavilion projects into the court at each extremity, with filigree walls and light domed roof. The square is paved with colored tiles, and the colonnade with white marble; while the walls are covered 5 ft (1.5 m) up from the ground with blue and yellow tiles, with a border above and below enameled blue and gold. The columns supporting the roof and gallery are irregularly placed. They are adorned by varieties of foliage, etc.; about each arch there is a large square of arabesques; and over the pillars is another square of filigree work. In the centre of the court is the Fountain of Lions, an alabaster basin supported by the figures of twelve lions in white marble, not designed with sculptural accuracy, but as symbols of strength and courage.

The *Sala de los Abencerrajes* (Hall of the *Abencerrages*) derives its name from a legend according to which the father of *Boabdil*, last king of Granada, having invited the chiefs of that line to a banquet, massacred them here.[citation needed] This room is a perfect square, with a lofty dome and trellised windows at its base. The roof is decorated in blue, brown, red and gold, and the columns supporting it spring out into the arch form in a remarkably beautiful manner. Opposite to this hall is the *Sala de las dos Hermanas* (Hall of the two

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<sup>32</sup> <http://whc.unesco.org/>.

Sisters), so-called from two white marble slabs laid as part of the pavement. These slabs measure 50 by 22 cm (15 by 7½ in). There is a fountain in the middle of this hall, and the roof -a dome honeycombed with tiny cells, all different, and said to number 5000 is an example of the so-called "stalactite vaulting" of the Moors.<sup>33</sup>

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<sup>33</sup> Ruggles, D. Fairchild (2008); "Islamic Gardens and Landscape", Page: 154 .

### **Comparative analysis on Alhambra and the Persian Garden**

Islamic art and architecture is being defined in a very close relationship with Persian art and architecture. There has been a very strong Persian style that goes deep into ancient history of this country. This strong and flexible quality that can be also considered about Iranian soul, had a very clear influence on culture and art of all invaders like Arabs and Mughul people so that little by little they became fans and supporters of performing Persian art. They even brought this respect and appreciation to this art style even out Iran's political borders, as what happened about Mughul, Timurid and even Arab dynasties in Andalusia. So here we are introducing some significant examples for the matters above.

### **Form and Construction**

Because *Alhambra* gardens complex has been built on a hilltop overlooking the town, they must have slopes at different directions but the invisibility of such level difference is noteworthy. So that unlike Persian Gardens no level difference is seen in longitudinal axes and it has been tried to resolve the gradient in a clandestine manner. Another important point is the order existing in yards and patios, inspired by the geometry of Persian Gardens.

### **Chahar Bagh**

*Chahar Bagh* pattern has been clearly used in the court of lions in *Alhambra* palace. This matter shows deep influence of Persian culture of architecture and gardening far in Spain.

### **Pavilions**

Pavilions were also an integral part of the Persian Garden. It would be rare to find a garden without at least a few of them surrounding the lush foliage and running water. Designed in the unique Persian architectural style with large arched entryways, these pavilions were often open to the air, and always were near to or surrounded a main waterway of the garden.



On the other hand, in *Alhambra* garden plenty of space making and body making by pruned plants is observed which has imitated the European Garden making style. Therefore, the garden making manner in the garden is in fact a combination of Persian and European styles.

Regarding the shape and dimensions of yards and patios it can be said that on the whole two types of yards are seen in this complex: square-shaped yards and rectangular-shaped ones. In the former type the emphasis is upon the focal center in which a central element such as a basin or tree has been used but in the latter type the emphasis is upon the axis which is usually a water axis or a line of trees and plants.

What is evident in the yards is their small size. In *Alhambra* as well as other gardens such as *Alcazar* in Seville and also in the patios palace in Cordoba no large space is seen instead it has been tried to create larger spaces by using micro-spaces.

### **Landscape Design**

Usage of pruned plants and trees in a European style is noteworthy in landscaping and space making. Additionally, in *Alhambra* gardens complex ever green trees such as cedar, sour orange, olive, etc... have been used abundantly.

Decorations used in *Alhambra* are completely oriental with only plant motifs and no human motif at all.

Another important point is that landscaping in *Alhambra* is fully miniature i.e. in a micro-scale in which the dominance of man over landscape has always been attempted.

In addition to vegetation element another element used in landscaping is water. Water usage in *Alhambra* has a Persian origin and is in various forms such as concentrated or point usage, water axes, stagnant water basins, etc...

### **Oriental Gardens**

Japanese and Chinese Gardens are two important styles in eastern part of the world that have same roots and can be perfect representative to be compared with the Persian Garden. This

comparison can be done in some significant aspects such as design principles, architecture, history and conceptual basis of these different styles in gardening.

### **Description of the Chinese Garden**

The Chinese (Scholar's) Garden is a place for solitary or social contemplation of nature. Chinese Gardens were created in the same way as a combination of landscape and paintings together with poems - this was the so-called "poetic garden". The design of Chinese Gardens was to provide a spiritual utopia for one to connect with nature, to come back to one's inner heart, to come back to ancient idealism. Chinese Gardens are a spiritual shelter for men, a place they could be far away from their real social lives, and close to the ancient way of life, their true selves, and nature. This was an escape from the frustration and disappointment of the political problems in China. They used plants as symbols. Bamboo was used in every traditional Chinese Garden. This is because bamboo represents a strong but resilient character. Often pine is used to represent longevity, persistence, tenacity and dignity. The lotus is used to symbolize purity. The flowering plum is one of the most important aspects of a Chinese Garden, as it represents renewal and strength of will. Flowering peaches are grown for spring color and sweet olive as well. The chrysanthemum is used to symbolize splendor, luster and "the courage to make sacrifices for a natural life". Peonies symbolize wealth and banana trees are used simply for the sound they make in the breeze.

### **Origin**

The earliest attested Chinese Garden appears during the *Shang Dynasty*. It consisted of a raised platform surrounded by lush vegetation in the palace where feasts were held. Successive dynasties expanded this idea into imperial hunting parks with scenic compositions of rocks and plants. By the time of the *Han Dynasty* Chinese Gardens could be classified as either royal, religious or scholar. This triple classification is divided into several regional styles; Beijing Royal Gardens, Central China Gardens, *Yangtze River Gardens*, *Lingnan Gardens*.

## **History**

The Chinese Scholars Garden was built by and for the scholar class of civil servants. They first appeared during the early imperial era, and developed into high art by the Song Dynasty. The original impetus was a strict class division that caused careerist officials to give up hope of advancement in the civil service and retreat into a more contemplative life. Culturally, this class of people was under immense Confucian pressure in their public lives and so sought a more carefree Daoist existence in their private lives. The design of a garden drew on such diverse fields as Fengshui, botany, hydraulics, history, literature, and architecture. The task was considered so complex that only a scholar was capable of completing it, thus his garden was a measure of his knowledge. For the same reason poetry was a primary part of the garden design, as knowledge and composition of poetry served as an intelligence test for the scholar class. The garden served multiple functions as semi-public extension of the house and a place; of retreat, for festivity, for study of poetry, for romance. The social and cultural importance of the garden is attested in Chinese literature, particularly the classic Novel *Dream of the Red Chamber* which unfolds almost exclusively in a garden.

## **Design**

*Penjing* garden at the *Pagoda Yunyan Ta* (Cloud Rock Pagoda; *Suzhou*, China)

To be considered authentic, a garden must be built and planned around seventeen essential elements: 1. proximity to the home; 2. small; 3. walled; 4. small individual sections; 5. asymmetrical; 6. various types of spatial connections; 7. architecture; 8. rocks; 9. water; 10. trees; 11. plants; 12. sculpture; 13. *jie jing* (borrowed scenery); 14. chimes; 15. incense burners; 16. inscriptions; 17. use of Fengshui for choosing site.

The variety of sensory features, enhance a garden's appeal. Windows frame garden views. Trees and flowers provide aroma. Even the intricate designs of pavement and gravel offer tactile enjoyment.



Fig. 3-68. Alhambra, Court of the Lions

The aesthetics of the garden are judged by its conception, approach, layout, scenes, and borrowing. The conception is the measure of how well the garden reflects a painting or poem. The approach describes how the garden may express the idea of nature beyond the theme. The layout is the use of multiple layers of scenery to create a sense of the infinite in the finite. The scene is how well paired two opposite scene are and how they create harmony. Finally the borrowing or borrowed view is how artfully distant views are incorporated into the whole.

Chinese Gardens are built not planted. The basic form of the garden is created by ponds and mounds. China is mostly covered in mountains, thus they have occupied a special place in the collective imagination since the Neolithic. The mountain in the Chinese imagination is magical place. In myth, certain mountains are themselves sacred. The elaborate grottoes of rock serve the same function, a small piece of the mountain through which to stroll, full of caves where immortals live. The pits dug to heap these mounds are used as ponds and streams. The pavilions are placed in this landscape of mounds and ponds at auspicious points. Together the mound, pond, and pavilion create the primary form of the garden. A secondary layer is created by plants. In literature this secondary role is well attested. Finally, individual *Taihu* Rock is added for accent, like sculpture in a European Garden.

## **Architecture**

Architecture is the primary element of design. The garden scenes are all constructed to be best viewed from a pavilion. A more dynamic although inferior scene may be scene from a path. It is the location of the building; however, that determines the circulation of paths. The path itself can become architectonic by the addition of roof and screen walls. These screen walls often have moon-shaped doorways and small windows in the shapes of vases and apples.

## **Rock**

Decorative Chinese scholar's rocks, are used both for structural and sculptural purposes. The sculptural *Taihu* Rock is especially prized because it represents wisdom and immortality, and is only procurable from *Tai* Lake, just west of *Suzhou*. During the Song dynasty, they were the most expensive objects in the empire [citation needed]. Such rocks, combined with streams and pools, form the basis of a garden's plan. The Chinese word for landscape, *Shan Shui*, literally means "mountains and waters" while a common phrase for making a garden means "digging ponds and piling mountains".

## **Water**

Chinese Gardens usually feature a central pond and several off shooting streams. The softness of water offsets the solidity of the rocks, while also acting to reflect the constantly changing sky above. Goldfish, carp, and mandarin ducks are three of the most commonly raised fauna. The goal of the design is to make the scenery beautiful, the surrounding is quiet and cool, and the landscape wonderful. Temples, rest houses and short bridges are common features. Also, small fountains were a favorite.

## **Plants**

Many garden plants have essential symbolism. Pine trees represent wisdom and bamboo represents strength and upright morality. Plum trees are also extremely valuable to the Chinese for their beautiful pink and white blooms during winter. Chrysanthemums were also

extremely well-loved because of their autumn bloom (when most plants wither and die) and symbolize the perfect Confucian scholar. Peonies symbolize wealth and power, and the lotus symbolizes purity (and is also a revered Buddhist plant). Climbing roses, camellias, ginkgos, magnolias, jasmine, willows, sweet osmanthus, and maples were also planted. The plum blossom is one of the "Four Junzi Flowers" in China (the others being orchid, chrysanthemum, and bamboo) and symbolized nobleness. The Chinese see the blossoms as more of a symbol for winter rather than a harbinger of spring. It is precisely for this reason that the blossoms are so beloved, because they bloom most vibrantly amidst the winter snow while all other flowers have long since succumbed to the cold and died. Thus, they are seen as an example of resilience and perseverance in the face of adversity, and thus has also been used as a metaphor to symbolize revolutionary struggle. Because they blossom in winter, the plum, the pine, and the bamboo together have been called the "Three Friends of the Cold" .

### **Other**

The pavement of a Chinese Scholar's Garden might include intricate natural patterns or simply dirt depending on the wealth and mission of the owner. Decoration consists of calligraphy carved into rocks or walls, and lattice windows. Some windows have the shape of different objects such as apples, pears, circles, pentagons etc.



Fig. 3-69. Classical Gardens of Suzhou

**Classical Gardens of Suzhou – China - Date of Inscription on WH list: 1997****Brief Description**

Classical Chinese Garden design, which seeks to recreate natural landscapes in miniature, is nowhere better illustrated than in the nine gardens in the historic city of Suzhou. They are generally acknowledged to be masterpieces of the genre. Dating from the 11<sup>th</sup>-19<sup>th</sup> century, the gardens reflect the profound metaphysical importance of natural beauty in Chinese culture in their meticulous design.<sup>34</sup>



Fig. 3-70. Plan of Classical Gardens of Suzhou

<sup>34</sup> <http://whc.unesco.org/>.

## **Description of Japanese Garden**

Japanese Gardens, that is, gardens in traditional Japanese style, can be found at private homes, in neighborhood or city parks, and at historical landmarks such as Buddhist temples and old castles.

Some of the Japanese Gardens most famous in the West, and within Japan as well, are dry gardens or rock gardens, *Karesansui*. The tradition of the Tea masters has produced highly refined Japanese Gardens of quite another style, evoking rural simplicity. In Japanese culture, garden-making is a high art, intimately related to the linked arts of calligraphy and ink painting.<sup>35</sup>

Japanese Gardens were developed under the influences of the distinctive and stylized Chinese Gardens.<sup>36</sup>

The tradition of Japanese gardening was historically passed down from sensei to apprentice. In recent decades this has been supplemented by various trade schools. The opening words of *Zōen's* Illustrations for designing mountain, water and hillside field landscapes (1466) are "If you have not received the oral transmissions, you must not make gardens" and its closing admonition is "You must never show this writing to outsiders. You must keep it secret".<sup>37</sup>

## **Typical Features**

A catalogue of features "typical" of the Japanese Garden may be drawn up without inquiring deeply into the aesthetic underlying Japanese practice. Typical Japanese Gardens have at their center a home from which the garden is viewed. In addition to residential architecture, depending on the archetype, Japanese Gardens often contain several of these elements:

- Water, real or symbolic.
- Rocks or stone arrangements (or settings).
- A lantern, typically of stone.
- A teahouse or pavilion.

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<sup>35</sup> <http://www.wikipedia.com//>.

<sup>36</sup> Encyclopedia Britannica. Garden and landscape design: Japanese

<sup>37</sup> Slawson, David A. (1987); "Secret Teachings in the Art of Japanese Gardens".



- An enclosure device such as a hedge, fence, or wall of traditional character.
- A bridge to the island, or stepping stones.<sup>38</sup>

### **The use of stones, water, and plantings**

Though often thought of as tranquil sanctuaries that allow individuals to escape from the stresses of daily life, Japanese gardens are designed for a variety of purposes. Some gardens invite quiet contemplation, but may have also been intended for recreation, the display of rare plant specimens, or the exhibition of unusual rocks.

*Kaiyu-shiki* or Strolling Gardens require the observer to walk through the garden to fully appreciate it. A premeditated path takes observers through each unique area of a Japanese Garden. Uneven surfaces are placed in specific spaces to prompt people to look down at particular points. When the observer looks up, they will see an eye-catching ornamentation which is intended to enlighten and revive the spirit of the observer. This type of design is known as the Japanese landscape principle of "hide and reveal".

Stones are used to construct the garden's paths, bridges, and walkways. Stones can also represent a geological presence where actual mountains are not viewable or present. They are sometimes placed in odd numbers and a majority of the groupings reflect triangular shapes, which often are the mountains of China.

A water source in a Japanese garden should appear to be part of the natural surroundings; this is why one will not find fountains in traditional gardens. Man-made streams are built with curves and irregularities to create a serene and natural appearance. Lanterns are often placed beside some of the most prominent water basins (either a pond or a stream) in a garden. In some gardens one will find a dry pond or stream. Dry ponds and streams have as much impact as do the ones filled with water.

Green plants are another element of Japanese Gardens. Japanese traditions prefer subtle green tones, but flowering trees and shrubs are also used. Many plants in imitated Japanese Gardens of the West are indigenous to Japan, though some sacrifices must be made to account for the

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<sup>38</sup> <http://www.wikipedia.com/>.

differentiating climates. Some plants, such as sugar maple and fire bush, give the garden a broader palette of seasonal color.

### **Overview of Japanese Garden History**

During the *Asuka* period (538-710), gardens were supposed to express Buddhism and Taoism through replicating the mountainous regions in China (Japanese Lifestyle). Ruins of these types of gardens can be found in *Fujiwara* and *Heijyo* castle towns (Japanese Lifestyle).

During the *Heian* period (794-1185), gardens shifted from solely representing religious beliefs to becoming, "a place for ceremonies, amusement, and contemplation" (*Miller*). Gardens began to surround mansions that had the *shinden-zukuri* style (Japanese Lifestyle). In this style, the garden was located at the front of a building, also known as the south side (Japanese Lifestyle). As part of the garden style, there was water flowing through artificial passages that eventually spilled into ponds with little islands in them (Japanese Lifestyle). Very few of these gardens have survived to this day, and thus, are certainly a rarity in modern history. Later in this period, pure-land-style gardens became popular through the Pure Land Buddhism influence, and these gardens imitated the Paradise in the western *Pureland* as a result (Japanese Lifestyle). During this shift in style, the Japanese also began to model their gardens and homes after the *Amitabha* Hall style instead of the *Shinden* style (Japanese Lifestyle). Examples of the *Amitabha* style can be seen today in *Mahayana* Hall (Nara), *Byodoin* (Uji, Kyoto), the *Jyoruri* Temple, and *Motsuji* Temple (*Hiraizumi*, Nishi, Iwai, Iwate) (Japanese Lifestyle).

In the *Kamakura* and *Muromachi* periods (1185-1573), a great many gardens were created during these two time periods due to improved garden techniques and the development of *Syoinzukuri* style (Japanese Lifestyle). Zen beliefs were also flourishing at this time and had great influences over garden techniques and purposes. Another factor that allowed gardens to flourish stems from the fact that the shoguns simply enjoyed gardens. Dry landscape style also emerged during this time (Japanese Lifestyle). A notable gardener who appeared during these periods is *Soseki Muso*: He made *Saihoji* Temple (Kyoto), *Tenruji* Temple (Kyoto), and *Zuizenji* Temple (Kamakura) gardens. (Japanese Lifestyle)

After the *Muromachi* Period, Japanese tea ceremonies became an intricate part of Japanese culture (Japanese Lifestyle). *Sen no Rikyu* (1517-1591) created the traditional style of a tea house where there was usually a *roji* ("dewy path") leading to the house (Japanese Lifestyle). Besides the tea houses, gardens constructed in the *Edo* period (1603-1868) reflected the tastes and style of each individual shogun ruler. Instead of being a religious symbol, gardens shifted to being a symbol of a shogun's prestige and power (*Miller*). These tea house styled houses and gardens can be seen in *Kenrokuen* (Kanazawa), *Kōraku-en* (Okayama), *Ritsurin Park* (*Takamatsu*), *Koishikawa Korakuen* (Tokyo), and *Suizenji Park* (Kumamoto) (Japanese Lifestyle).



Fig. 3-71. Keiunkan Garden, created by Jihe Ogawa

In the *Meiji* period following the modernization of Japan, famous traditional gardens were owned by businessmen and politicians. Some of these extensive gardens are open to public viewing in *Murinan* (Kyoto) and *Chinzanso* (Tokyo) (Japanese Lifestyle). Famous gardeners of this period include 7<sup>th</sup> generation *Jihe Ogawa*, known as *Ueji*, and innovative dry landscape garden designer *Mirei Shigemori* (Japanese Lifestyle).

## Cultural Aspects of Japanese Gardens

### Poetry

Many poems were inspired and written about the different Japanese Gardens. An example of the poems written includes:

- *Chiimei's haiku* about a tea ceremony hut and garden:

"I laid a foundation and roughly thatched roof. I fastened hinges to the joints of the beams, the easier to move elsewhere should anything displease me. . . . Since first I hid my traces here in the heart of Mount Hino, I have added a lean-to on the south and a porch of bamboo. On the west I have built a shelf for holy water, and inside the hut, along the west wall, I have installed an image of *Amida* ... Above the sliding door that faces north I have built a little shelf on which I keep three or four black leather baskets that contain books of poetry and music and extracts from the sacred writings. Beside them stand a folding *ioto* and a lute. Along the east wall I have spread long fern fronds and mats of straw, which serve as my bed for the night. I have cut open a window in the eastern wall, and beneath it have made a desk. Near my pillow is a square brazier in which I burn brushwood. To the north of the hut I have staked out a small plot of land that I have enclosed with a rough fence and made into a garden. I grow many species of herbs there."<sup>39</sup>

### Literature

- "*Tale of Genji*" describes the "*Shinden-Zukun*" style garden of the *Heian* Period (Japan Lifestyle).
- During the *Heian* Period the "*Sakuteiki*" was written- the first book to discuss techniques of allotment of land, stone arrangement, artificial waterfall, water passages, and planting.

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<sup>39</sup> Varely, P. (2000); "Japanese Culture", Page: 93, <http://www.netlibrary.com.ezproxy.umuc.edu/Reader/>.

**Historic Monuments of Ancient Nara – Japan - Date of Inscription on WH list: 1998****Brief Description**

Nara was the capital of Japan from 710 to 784. During this period the framework of national government was consolidated and Nara enjoyed great prosperity, emerging as the fountainhead of Japanese culture. The city's historic monuments – Buddhist temples, *Shinto* shrines and the excavated remains of the great Imperial Palace – provide a vivid picture of life in the Japanese capital in the 8<sup>th</sup> century, a period of profound political and cultural change.<sup>40</sup>



Fig. 3-72. Historic Monuments of Ancient Nara

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<sup>40</sup> [http:// whc.unesco.org/](http://whc.unesco.org/).

## **Comparative Analysis on the Persian Gardens and Oriental Gardens**

### **History**

The earliest attested Chinese Garden appears during the *Shang Dynasty*. The first Japanese Gardens were developed under the influences of the distinctive and stylized Chinese Gardens. But the Persian Garden and *Chahar Bagh* pattern goes back to the ancient empire of Achaemenids in about 500 BC, and have no record before and out of Iran's borders. This can show the authenticity and creativity of ancient Iranian designers.

### **Geometry**

Oriental gardens are totally asymmetrical and based on natural forms while *Chahar Bagh* system is based on a especial kind of geometry that looks symmetrical in the visitor's point of view but at the same time obeying various forms of their site.

Chinese Gardens are built not planted. The basic form of the garden is created by ponds and mounds. Together the mound, pond, and pavilion create the primary form of the garden. A secondary layer is created by plants. In literature this secondary role is well attested. Finally, individual *Taihu* Rock is added for accent, like sculpture in a European Garden. But considering that Persian Garden was born in a desert environment and thus, all elements should have been created in an artificial way and all the system and ecologic space are artificial, so all details and parts and elements are designed in same time and same system that is necessary for the deep unity of them.

### **Design**

Although both Japanese and Chinese Gardens experienced a lot of changes in style and took different shapes according to the new environment and time, Persian Gardens are somehow very unique pattern the beginning up to now. This is because of the flexible modular system of *Chahar Bagh* geometry to fulfill the different needs of different areas of Iran. So we can describe two different kinds of historical creativity in two different lands. Oriental gardens had been transformed according to their different region and times, and Persian Gardens used

their basic pattern and module to adopt with different parts of their country. This unity and continuity in style during more than two millenniums is a real unique matter to be concerned.

### **Design process**

Architecture is important in both oriental and Persian Gardens, but design process and the way of water courses and path making and location finding is totally different. In the oriental gardens the paths and water courses' shape are defined by location of buildings in site. This is though, in Persian Gardens the paths and water courses, the ways and the building in the garden are all in order of *Chahar Bagh* system and in an exact relation with each other. So this pattern fulfills all the special needs of location finding and path making of the building. Also the straight system of water courses is based on both *Chahar Bagh* pattern and management of water management to control the water consumption and evaporation in the hot and arid environment of Iran.

### **Conceptual Basis**

Both Oriental and Persian Gardens are in close relationship with the literature and poetry of their homeland and both are trying in many ways to somehow visualize the concepts and meanings of their literary texts. For instance in Japanese poems and literature, descriptions are realistic and somehow the Japanese poets' descriptions are realistic. But when an Iranian poet once to describe a garden, he would use all his visional and literary abilities to create an idealistic view of a green beautiful Persian Gardens. To him, the garden is more than a place with trees and grass, it is a window to a world full of magic. So he will never stop describing a little garden in his homeland as a piece of the paradise fallen from the sky.

### **Location**

Chinese designers used Fengshui principals for choosing site. But choosing the site of Persian Gardens must be very precise and in order because of the special climatic and environmental problems and limitations. Oriental gardens have been created in prosperous areas when Persian Gardens have been born in arid and desert climate and environment. This

concept is very vital for having appropriate access to water sources. Although, finding the true location in such a country is very difficult, we can see that this hard job has been done so perfectly that it supported the survival of many Persian Gardens up to present time. This shows the creativity of Iranian designers of the past in choosing the right place for the right matter in various areas of this vast country.

Japanese Gardens have been usually built on uneven surfaces so that the view and feeling would be much more similar to the nature. This is though, the Iranian designers made the slopes even and in order with usage of group steps. The result is a unity and order of all the elements of the garden.

Furthermore the Iranians use the natural slope of any surface for regulating water in the best way possible so that with the help of a little amount of energy the precious element of water would be accessible in all parts of the garden.

### **Function**

Both oriental and Persian Gardens are to be pleasant places and both were successful to fulfill this matter. But Chinese Gardens were built to escape from social life and the frustration and disappointment of the political problems in China. So the main comparisons of Persian and Oriental Gardens are that in Persian Gardens life is running and pouring everywhere but the oriental gardens are a place of solitude and away from social and economic activities. It must be considered that the main prospect of Persian Gardens were not residential ones but more than a governmental, mausoleum and etc., But Japanese and Chinese Gardens were designed in a very close relation to the residential spaces.

Furthermore, Persian Garden can not only be seen in famous and great historical gardens, but also in all aspects of architecture and urban planning, houses, mausoleums, castles, palaces and many other public urban and rural places that even many gardens have been created to develop the space of a whole city like in Shiraz, Isfahan and Qazvin because they have been built on best climatic and environmental parts of areas and even could save the city from unpleasant winds and so the city could have been developed through garden's orientation.



## **Water**

At first we can say that the importance of water in Oriental and Persian Gardens is not a matter of comparison. It is so caused Persian Gardens can not be defined without the existence of water, while some of Japanese Gardens are designed totally dry of water. Although, concept of water in Japanese Gardens may be used highly symbolic in the shape of dry Ponds, the very survival of Persian Gardens directly depends on Water. In Oriental Gardens this matter, have two major reasons:

1. The significance of stone and its priority to the other elements of nature
2. The big difference between climatic conditions in Iran and Oriental lands. Plants in the Oriental Gardens have the opportunity of using natural source of water such as Rain, but in the arid areas of Iran water should be gained by artificial ways by Men.

Besides, in Chinese Garden water have two main functions:

**First:** Demonstrating the contrast of two major element of Chinese Garden with each other, Water and Stones -The softness and flexibility of running water in opposite of Hardness and firmness of stone.

**Second:** When the water is calm and steady, it has the ability to reflect the image of its surrounding.

When, water has too many functions in Persian Gardens. More than the reflective quality of water, in Persian Gardens almost all quality and capacity of water is considered. For instance, Iranians use the sound of running water for making the ambience calm and refreshing. This is though considered as such, the architects make some heights and downs in the water streams to make the water struggle for running. Thus the water sound is all over the place and impacting all parts of garden. These ups and downs and the running water in the gardens create a very cool and refreshing breeze in the gardens. So we can see that how the esthetic aspects had been highly considered in Persian Gardens. Also water is a great cause to let many other artistic capacities of Iranians be seen like the beautiful tiles with great colors and shapes that have been located in watercourses to make them more beautiful and sometimes in especial forms to emphasize pleasant sound of running water in the garden.

In Japanese Gardens man-made streams are built with curves and irregularities to create a serene and natural appearance. But in Persian Gardens water streams are designed in straight lines based on *Chahar Bagh* pattern and a harmony with the precise geometry of garden.

### **Plants**

plants were used for their symbolic meanings in oriental gardens and also for their form and colors in Japanese ones, while in Persian Gardens plants are being used for their most capacities that vary from their symbolic meanings to edible uses and desirable fragrances to regulating the light and heat of the sun within providing shades that is a real vital point for survival of the garden with arranging the energy consumption. For instance they plant high and umbrageous trees beside water streams to control water evaporation. We can say that at first plants are located for their shade to control the heat of the sun and then they are considered for fruits they product. This matter is a great economic point in management of the gardens.

Also this matter should be considered is that in Persian Gardens plants are growing in a very arid environment and this is the biggest difference between planting in Persian Gardens and gardens in prosperous areas like oriental parts of the earth like China and Japan. So planting in Persian Gardens needs a very distinct and precise management and care. This matter is not only in great and famous gardens but also considered in home-gardens.

### **Architecture**

#### **Enclosure**

Both Iranian and oriental gardens have enclosures around. But the difference is type and form of enclosures. For instance Japanese Gardens have enclosures such as hedge, fence, or walls of traditional character, while Persian Gardens are necessarily surrounded with solid walls and earthen materials like *Chineh* (layerd earthen wall), Mud brick and brick that seems a wise decision to preserve gardens in such harsh environments.

**Building materials**

While oriental gardens were generally designed and build with and based on stones and rocks, Iranian designers use many various kinds of materials to build up Persian Gardens. These materials vary from stone, wood, brick, tile, mud brick, *Chineh*, stucco and lime. But the majority of materials in Persian Gardens are earthen.

The arrangement of materials is in a way that external views of the garden seem very simple, steady and same with their earthy environment but when the visitor enters the garden, he encounters a paradise on the earth with all its elaborative decoration and various materials.

## **Description of the Western Gardens**

To have a comparative analysis on the Persian Garden and European ones, Italian, French and English Gardens are chosen as two important styles of gardening in Europe representing western gardens.

These two types of garden have had influenced on each other in different ways, when the Persian garden is the prototype of geometrical garden, later in Safavids and Qajars dynasties western impacts especially on flowers and plants can be seen in Persian gardens.

## **Italian Renaissance Garden**

The Italian Renaissance Garden was a new style of garden which emerged in the late fifteenth century at villas in Rome and Florence, inspired by classical ideals of order and beauty, and intended for the pleasure of the view of the garden and the landscape beyond, for contemplation, and for the enjoyment of the sights, sounds and smells of the garden itself.

In the late Renaissance, the gardens became larger, grander and more symmetrical, and were filled with fountains, statues, grottoes, water organs and other features designed to delight their owners and amuse and impress visitors. The style was imitated throughout Europe, influencing the gardens of the French Renaissance and the English Garden.<sup>41</sup>

## **The Classical Influence the Italian Renaissance Garden**

Prior to the Italian Renaissance, Italian Medieval Gardens were enclosed by walls, and were devoted to growing vegetables, fruits and medicinal herbs, or, in the case of monastery gardens, for silent meditation and prayer. The Italian Renaissance Garden broke down the wall between the garden, the house, and the landscape outside.<sup>42</sup>

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<sup>41</sup> <http://wikipedia.com>

<sup>42</sup> Prevot, Philippe (2002); "Histoire des Jardins".

### **Alberti and the Principles of the Renaissance Garden**

The first Renaissance text to include garden design was *De Re Aedificatoria* ('The Ten Books of Architecture'), by *Leon Battista Alberti* (1404-1472). He drew upon the architectural principles of *Vitruvius*<sup>43</sup>, and used quotations from Pliny the Older and Younger to describe what a garden should look like and how it should be used. He argued that a villa should both be looked at and a place to look from; that the house should be placed above the garden, where it could be seen and the owner could look down into the garden<sup>44</sup>.

*Alberti* wrote:

"The construction will give pleasure to the visitor if, when they leave the city, they see the villa in all its charm, as if to seduce and welcome the new arrivals. Toward this end, I would place it on a slightly elevated place. I would also have the road climb so gently that it fools those who take it to the point that they do not realize how high they have climbed until they discover the countryside below."<sup>45</sup>

Within the garden, *Alberti* wrote:

"...You should place porticos for giving shade, planters where vines can climb, placed on marble columns; vases and amusing statues, provided they are not obscene. You should also have rare plants.... Trees should be aligned and arranged evenly, each tree aligned with its neighbors."<sup>46</sup>

### **The Literary Influence on the Italian Renaissance Garden**

A popular romance, *The Hypnerotomachia Poliphili*, (*Poliphilo's* strife of love in a dream), published in 1499 in Venice by the monk *Francesco Colonna*, also had an important influence on the gardens of the *Renaissance*. It described the voyage and adventures of a traveler, *Poliphile*, through fantastic landscapes, looking for his love, *Polia*. The scenes described in the book and the accompanying woodcut illustrations influenced many Renaissance Gardens; they included a lake-island (as at Boboli Gardens), giants emerging

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<sup>43</sup> Prevot, Philippe (2002); "Histoire des Jardins".

<sup>44</sup> Attlee, Helena (2006); "Italian Gardens - A Cultural History".

<sup>45</sup> Alberti, Leon Battista (2004); "Édifices destinés aux catégories particulières de citoyens, in L'art d'édifier", Page: 429.

<sup>46</sup> Alberti, Leon Battista (2004); "Édifices destinés aux catégories particulières de citoyens, in L'art d'édifier".

from the earth (as at *Villa Pratolino*), the labyrinth, and the fountain of *Venus* (as at *Villa Castello*) where *Poliphile* and *Polia* were reconciled.<sup>47</sup>

### **Power and Magnificence-the political symbolism of the Renaissance Garden**

While the early Italian Renaissance Gardens were designed for contemplation and pleasure with tunnels of greenery, trees for shade, an enclosed *Giardino Segreto* (secret garden) and fields for games and amusements, the Medici, the ruling dynasty of Florence, used gardens to demonstrate their own power and magnificence. "During the first half of the sixteenth century, magnificence came to be perceived as a princely virtue, and all over the Italian peninsula architects, sculptors, painters, poets, historians and humanist scholars were commissioned to concoct a magnificent image for their powerful patrons."<sup>48</sup> The central fountain at *Villa Castello* featured a statue of *Hercules*, symbolizing *Cosimo de Medici*, the ruler of Florence, and the fish-tailed goat that was an emblem of the Medici's; the garden represented the power, wisdom, order, beauty and glory that the Medici had brought to Florence.

### **18<sup>th</sup> Century Royal Palace at Caserta with the Park, the Aqueduct of Vanvitelli, and the San Leucio Complex - Italy- Date of Inscription on WH list: 1997**

#### **Brief Description**

The monumental complex at *Caserta*, created by the Bourbon king *Charles III* in the mid-18<sup>th</sup> century to rival *Versailles* and the Royal Palace in Madrid, is exceptional for the way in which it brings together a magnificent palace with its park and gardens, as well as natural woodland, hunting lodges and a silk factory. It is an eloquent expression of the Enlightenment in material form, integrated into, rather than imposed on, its natural setting.<sup>49</sup>

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<sup>47</sup> Prevot, Philippe (2002); "Histoire des Jardins".

<sup>48</sup> Attlee, Helena (2006); "Italian Gardens - A Cultural History ", Page:28.

<sup>49</sup> World Heritage Community site <http://whc.unesco.org/>.

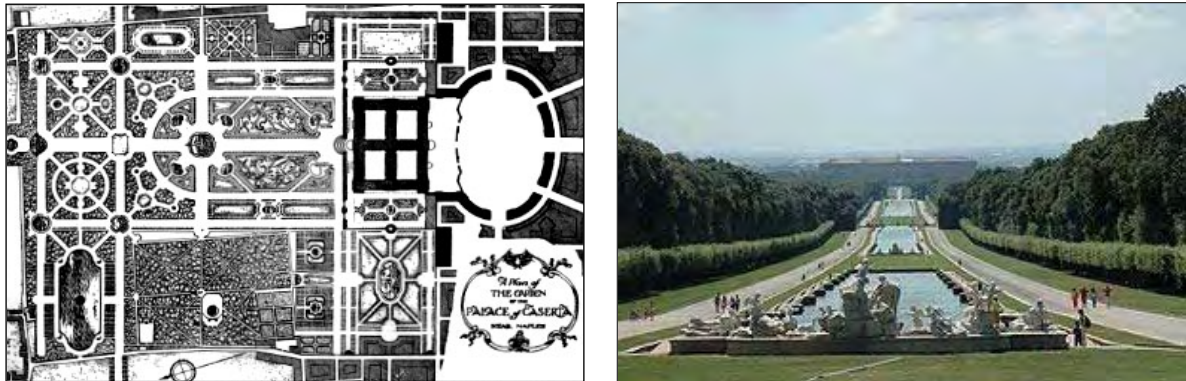


Fig. 3-73. 18<sup>th</sup> Century Royal Palace at Caserta with the Park, the Aqueduct of Vanvitelli, and the San Leucio Complex

French formal garden, or *gardin à la française* is a style of garden based on symmetry and the principle of imposing order over nature. It reached its apogee in the 17<sup>th</sup> century with the creation of the Gardens of *Versailles*, designed for *Louis XIV* by the landscape architect *André Le Nôtre*. The style was widely copied by other courts of Europe.<sup>50</sup>

<sup>50</sup> Rigau, Éric Mension (2000); “Les jardins témoins de leur temps in *Historia*”.

## History of the French Garden

### The Italian Influence

The garden *à la française* evolved from the gardens of the French Renaissance, a style which was imported into France at the beginning of the 16th century. The Italian style, typified by *Boboli Gardens* in Florence and the *Villa Medici* in *Fiesole*, was characterized by planting beds, or parterres, created in geometric shapes, and laid out symmetrical patterns; the use of fountains and cascades to animate the garden; stairways and ramps to unite different levels of the garden; grottos, labyrinths, and statuary on mythological themes. The gardens were designed to represent harmony and order, the ideals of the Renaissance, and to recall the virtues of Ancient Rome.

Following his campaign in Italy in 1495, where he saw the gardens and castles of *Naples*, King *Charles VIII* brought Italian craftsmen and garden designers, such as *Pacello da Mercogliano*, from Naples and ordered the construction of Italian-style gardens at his residence at the *Chateau d'Amboise*. His successor *Henry II*, who had also traveled to Italy and had met *Leonardo Da Vinci*, created an Italian nearby at the *Chateau de Blois*.<sup>51</sup>

Beginning in 1528, *Francois I* created new gardens at the *Chateau de Fontainebleau*, which featured fountains, parterres, a forest of pine trees brought from provence and the first artificial grotto in France.<sup>52</sup> The *Chateau de Chenonceau*, had two gardens in the new style, one created for *Diane de Poitiers* in 1551, and a second for *Catherine de Medici* in 1560.<sup>53</sup>

In 1536 the architect *Philibert de l'Orme*, upon his return from Rome, created the gardens of the *Château d'Anet* following the Italian rules of proportion. The carefully-prepared harmony of Anet, with its parterres and surfaces of water integrated with sections of greenery, became one of the earliest and most influential examples of the classic French Garden.<sup>54</sup>

While the gardens of the French Renaissance were much different in their spirit and appearance than those of the Middle Ages, they were still not integrated with the architecture of the chateaux, and were usually enclosed by walls. the different parts of the gardens were not harmoniously joined together, and they were often placed on difficult sites chosen for

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<sup>51</sup> Wenzler ,Claude (2003); "Architecture du jardin", Page:12.

<sup>52</sup> Prevot ,Philippe (2006);" Histoire des jardins", Page:107.

<sup>53</sup> Ibid. Page:114.

<sup>54</sup> Jeannel, Bernard (2003); "Le Nôtre, Éd. Hazan", Page: 17.



terrain easily to defend, rather than for beauty. All this was to change in the middle of the 17<sup>th</sup> century with the development of the first real garden *à la française*.

### **Vaux-le-Vicomte**

The first important garden *à la française* was the *Chateau of Vaux-le-Vicomte*, created by *Nicolas Fouquet*, the superintendent of *Finances to Louis XIV*, beginning in 1656. Fouquet commissioned *Louis Le Vau* to design the chateau, *Charles LeBrun* to design statues for the garden, and *Andre Le Notre* to create the gardens. For the first time, that garden and the chateau were perfectly integrated. A grand perspective of 1500 meters extended from the foot of the chateau to the statue of the *Hercules of Farnese*; and the space was filled with parterres of evergreen shrubs in ornamental patterns, bordered by colored sand, and the alleys were decorated at regular intervals by statues, basins, fountains, and carefully sculpted topiaries. "The symmetry attained at *Vaux* achieved a degree of perfection and unity rarely equaled in the art of classic gardens. The chateau is at the center of this strict spatial organization which symbolizes power and success."<sup>55</sup>

### **Gardens of Versailles**

The gardens of Versailles, created by *Andre Le Notre* between 1662 and 1700, were the greatest achievement of the garden *à la française*. They were the largest gardens in Europe - with an area of 15000 hectares, and were laid out on an east-west axis followed the course of the sun: the sun rose over the Court of Honor, lit the Marble Court, crossed the Chateau and lit the bedroom of the King, and set at the end of the Grand Canal, reflected in the mirrors of the Hall of Mirrors.<sup>56</sup> In contrast with the grand perspectives, reaching to the horizon, the garden was full of surprises – fountains. Small gardens fill with statuary, which provided a more human scale and intimate spaces.

The central symbol of the Garden was the sun; the emblem of *Louis XIV*, illustrated by the statue of Apollo in the central fountain of the garden. "The views and perspectives, to and

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<sup>55</sup> Prevot ,Philippe (2006);"Histoire des jardins", Page:146.

<sup>56</sup> Ibid. Page:152.

from the palace, continued to infinity. The king ruled over nature, recreating in the garden not only his domination of his territories, but over the court and his subjects."<sup>57</sup>

### **The Principles of the French Garden**

*Jacques Boyceau de La Barauderie* wrote in 1638 in his *Traite du jardinage selon les raisons de la nature et d'art* that "the principal reason for the existence of a garden is the esthetic pleasure which it gives to the spectator."<sup>58</sup>

The form of the French garden was strongly influenced by Italian Gardens of the Renaissance, and was largely fixed by the middle of the 17<sup>th</sup> century. It had the following elements, which became typical of the formal French garden:

- A geometric plan using the most recent discoveries of perspective and optics.
- A terrace overlooking the garden, allowing the visitor to see all at once the entire garden. As the French landscape architect *Olivier de Serres* wrote in 1600, It is desirable that the gardens should be seen from above, either from the walls, or from terraces raised above the parterres.<sup>59</sup>
- All vegetation is constrained and directed, to demonstrate the mastery of man over nature. Trees are planted in straight lines, and carefully trimmed, and their tops are trimmed at a set height.
- The residence serves as the central point of the garden, and its central ornament. No trees are planted close to the house; rather, the house is set apart by low parterres and trimmed bushes.<sup>60</sup>
- A central axis, or perspective, perpendicular to the facade of the house, on the side opposite the front entrance. The axis extends either all the way to the horizon (*Versailles*) or to piece of statuary or architecture (*Vaux-le-Vicomte*). The axis faces either South (*Vaux-le-Vicomte, Meudon*) or east-west (*Tuileries, Clagny, Trianon, Sceaux*). The

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<sup>57</sup> Impelluso, Lucia, *Jardins* (2007); "Potagers et labyrinths", Page:64.

<sup>58</sup> Jacques Boyceau de La Barauderie (1638); "Traite du jardinage selon les raisons de la nature et de l'art".

<sup>59</sup> Il est à souhaiter que les jardins soient regardés de haut en bas, soit depuis des bâtiments, soit depuis des terrasses rehaussées à l'entour des parterres », Olivier de Serres in *Théâtre d'architecture ou Mesnage des champs*, 1600, cité par Bernard Jeannel, *Le Nôtre*, Éd. Hazan, Page: 26.

<sup>60</sup> Wenzler, Claude (2003); "Architecture du jardin, Editions Ouest-France", Page: 22.

principle axis is composed of a lawn, or a basin of water, bordered by trees. The principle axis is crossed by one or more perpendicular perspectives and alleys.

- The most elaborate parterres, or planting beds, in the shape of squares, ovals, circles or scrolls, are placed in a regular and geometric order close to the house, to complement the architecture and to be seen from above from the reception rooms of the house.
- The parterres near the residence are filled with broderies, designs created with low boxwood to resemble the patterns of a carpet, and given a polychrome effect by plantings of flowers, or by colored brick, gravel or sand.
- Farther from the house, the broderies are replaced with simpler parterres, filled with grass, and often containing fountains or basins of water. Beyond these, small carefully-created groves of trees, serve as an intermediary between the formal garden and the masses of trees of the park. "The perfect place for a stroll, these spaces present alleys, stars, circles, theaters of greenery, galleries, spaces for balls and for festivities."<sup>61</sup>
- Bodies of water (canals, basins) serve as mirrors, doubling the size of the house or the trees.
- The garden is animated with pieces of sculpture, usually on mythological themes, which either underline or punctuate the perspectives, and mark the intersections of the axes, and by moving water in the form of cascades and fountains.

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<sup>61</sup> Wenzler, Claude (2003); "Architecture du jardin, Editions Ouest-France", Page:24.

**Palace and Park of Versailles – France - Date of Inscription on WH list: 1979**

**Brief Description**

The Palace of Versailles was the principal residence of the French kings from the time of *Louis XIV* to *Louis XVI*. Embellished by several generations of architects, sculptors, decorators and landscape architects, it provided Europe with a model of the ideal royal residence for over a century.<sup>62</sup>



Fig. 3-74. Palace and Park, Versailles



Fig. 3-75. Old plan of the palace of Versailles

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<sup>62</sup> [http:// whc.unesco.org/](http://whc.unesco.org/).

## **The English Garden**

The English Garden or English landscape park (French: Jardin anglais, Italian: *Giardino all'inglese*, German: *Englischer Landschafts garten*) is a style of landscape garden which emerged in England in the early 18<sup>th</sup> century, and spread across Europe, replacing the more formal, symmetrical *Garden à la française* of the 17<sup>th</sup> century as the principal gardening style of Europe [1]. The English Garden presented an idealized view of nature, often inspired by paintings of landscapes by *Claude Lorraine* and *Nicolas Poussin*. It usually included a lake, sweeps of gently rolling lawns set against groves of trees, and recreations of classical temples, Gothic ruins, bridges, and other picturesque architecture, designed to recreate an idyllic pastoral landscape. By the end of the eighteenth century, the English garden was being imitated by the French landscape garden, and as far away as St. Petersburg, Russia, in *Tsarskoye Selo*, the gardens of Catherine the Great. It also had a major influence on the form of the public parks and gardens which appeared around the world in the 19<sup>th</sup> century.<sup>63</sup>

## **History of the English Landscape Garden**

The predecessors of the landscape garden in England were the great parks created by *Sir John Vanbrugh* (1664-1726) and *Nicholas Hawksmoor* at Castle Howard (1699-1712); *Blenheim Palace* (1705-1722) and the Claremont Landscape Garden at Claremont House (1715-1727). These parks featured vast lawns, woods, and pieces of architecture, such as the classical mausoleum designed by *Hawksmoor* at Castle Howard. At the center of the composition was the house, behind which were formal and symmetrical gardens in the style of the *Garden à la française*, with ornate carpets of floral designs and walls of hedges, decorated with statues and fountains. These gardens, modeled after the gardens of *Versailles*, were designed to impress visitors with their size and grandeur.<sup>64</sup>

## **William Kent and Charles Bridgeman**

The new style that became known as the English Garden was invented by landscape designers *William Kent* and *Charles Bridgeman*, working for wealthy patrons, including

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<sup>63</sup> Impelluso, Lucia (2006); “Jardins, potagers et labyrinths”.

<sup>64</sup> Prévot, Philippe (2008); “Histoires des jardins, Éditions Sud Ouest”.

*Richard Temple, 1st Viscount Cobham, Richard Boyle, 3rd Earl of Burlington, and banker Henry Hoare II*; men who had large country estates, were members of the anti-royalist Whig Party, had classical educations, were patrons of the arts, and had taken the Grand tour to Italy, where they had seen the *Roman* ruins and Italian landscapes they reproduced in their gardens.

*William Kent* (1685-1738) was an architect, painter and furniture designer who introduced *Palladian* style architecture to England. Kent's inspiration came from *Palladio's* buildings in the *Veneto* and the landscapes and ruins around Rome - he lived in Italy from 1709 to 1719, and brought back many drawings of antique architecture and landscapes. His gardens were designed to compliment the *Palladian* architecture of the houses he built.<sup>65</sup>

*Charles Bridgeman* (1690-1738) was the son of a gardener and an experienced horticulturist, who became the Royal Gardener for *Queen Anne* and *Prince George of Denmark*, responsible for tending and redesigning the royal gardens at *Windsor, Kensington Palace, Hampton Court, St. James's Park* and *Hyde Park*. He collaborated with *Kent* on several major gardens, providing the botanical expertise which allowed *Kent* to realize his architectural visions.<sup>66</sup>



Fig. 3-76. English Garden

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<sup>65</sup> Yves-Marie Allain and Janine Christiany(2006); “L'art des jardins en Europe”.

<sup>66</sup> Prévot, Philippe (2008); “Histoires des jardins, Éditions Sud Ouest”.

### Chiswick House

*Kent* created one of the first true English landscape gardens at *Chiswick House* for *Richard Boyle*, 3rd Earl of Burlington. The first gardens that he laid out between 1724 and 1733 had many formal elements of a *Garden à la française*, including alleys forming a trident and canals, but they had something new - picturesque recreation of an *Ionic* temple set in a theater of trees. Between 1733 and 1736, he redesigned the garden again, adding lawns sloping down to the edge of river, and a small cascade. For the first time the form of a garden was inspired not by architecture, but by an idealized version of nature.



Fig. 3-77. Garden à la française

### Characteristics of the English Garden

The European "English Garden" is characteristically on a smaller scale and more filled with "eye-catchers" than most English landscape gardens: grottoes, temples, tea-houses, belvederes, pavilions, sham ruins, bridges and statues, though the main ingredients of the English Garden in England are sweeps of gently rolling ground and water, against a woodland background with clumps of trees and outlier groves. The name - not used in the United Kingdom, where "Landscape Garden" serves - differentiates it from the formal baroque design of the *Garden à la française*. One of the best-known English Gardens in Europe is the Englischer Garten in Munich.

The dominant style was revised in the early 19<sup>th</sup> century to include more "gardenesque" features, including shrubberies with graveled walks, tree plantations to satisfy botanical curiosity, and, most notably, the return of flowers, in skirts of sweeping planted beds. This is the version of the landscape garden most imitated in Europe in the 19<sup>th</sup> century. The outer areas of the "home park" of English country houses retain their naturalistic shaping. English gardening since the 1840s has been on a more restricted scale, closer and more allied to the residence.

The canonical European English park contains a number of Romantic elements. Always present is a pond or small lake with a pier or bridge. Overlooking the pond is a round or hexagonal pavilion, often in the shape of a Monopteros, a Roman temple. Sometimes the park also has a "Chinese" pavilion. Other elements include a grotto and imitation ruins.

*Notable* designers of the English prototypes of the *Englischer Garten* include *John Vanbrugh* (1664-1726), *Stephen Switzer* (1682-1745), the poet *Alexander Pope* (1688-1744), *Charles Bridgeman* (1690-1738), *William Kent* (1685-1748).

A second style of English Garden, which became popular during the 20<sup>th</sup> century in France and northern Europe, is the late 19<sup>th</sup>-century English cottage garden.<sup>67</sup>

### **Blenheim Palace- United Kingdom of Great Britain and Northern Ireland- Date of Inscription on WH list: 1987**

#### **Brief Description**

Blenheim Palace, near Oxford, stands in a romantic park created by the famous landscape gardener 'Capability' Brown. It was presented by the English nation to *John Churchill*, first Duke of Marlborough, in recognition of his victory in 1704 over French and Bavarian troops.

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<sup>67</sup> The English Garden, Phaidon Press, London, 2008.



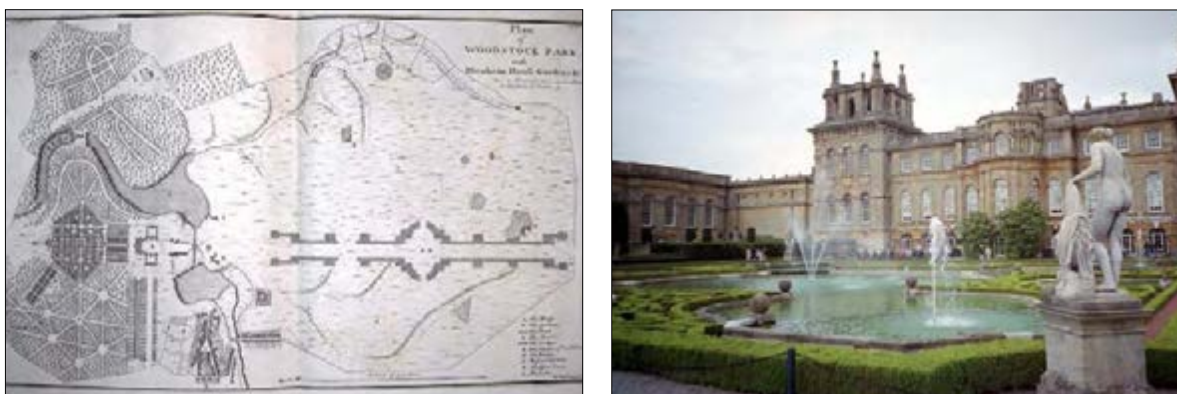


Fig. 3-78. Plan of Blenheim Palace

Built between 1705 and 1722 and characterized by an eclectic style and a return to national roots, it is a perfect example of an 18<sup>th</sup> century princely dwelling.<sup>68</sup>

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<sup>68</sup> <http://whc.unesco.org/>.

## **Comparative Analysis on the Persian Gardens and Western Gardens**

### **History**

The Paradise Garden is a form of garden, originally just paradise, a word derived from the Median language, or Old Persian. Its original meaning was a walled-in compound or garden; from *Pairi* (around) and *Daeza* or *Diz* (wall, brick, or shape). The name has come to be commonly used in English and other European languages as an alternative for heaven. Because of the additional meanings for the word, the enclosed garden of the original concept is now often referred to as a paradise garden.

The Persian Paradise Garden is one of the handful of fundamental original garden types from which all the world's gardens derive, in various combinations. This type of gardening goes back to the ancient imperial of Achaemenids. It became the foundation of much of the garden traditions of Islam, and later on of Europe. Examples of the paradise garden and its derivatives can be seen today in many of the historic gardens of Islamic and European countries.

### **Geometry**

Precise geometrical regularity, symmetry, axial open-ended, continuation, order and repetition were the outstanding characteristics of Persian Gardens. Geometry and symmetry in Persian Garden is not based on perspective and optic sciences like western ones, but on a very pure unity and integrity as that can be observed in the *Chahar Bagh* pattern.

Fig. 3-79. Geometry of the Persian garden, *Bagh-e Fin*

### **Conceptual Basis**

Concerning the main principles of the geometry of Persian Gardens, the whole garden is considered as the symbol of the world with a pool of life in the centre. The garden is divided into four quarters by the water channels as main axis called *Chahar Bagh* (Four Gardens) which refers back to the garden of Eden that was watered by four rivers. This division is combined with a mystical love of flowers, trees which spreads scent, color and the eternity of life and leads a calm retreat from the noisy and dusty outside world through a sense of uniqueness in pureness.

This difference is based on serious discrepancy of two different epistemology -one looks at earth and the other watches the sky. So this can be observed that in Persian Gardens almost everything, like what in Persian paintings. There is no perspective as if the only and main point of view is above all. So here we are not encountered with complicated patterns and perspectives like ones in Europe.

Such Persian geometry that can be seen in traditional Persian painting too, is built on the basis of Persian divine beliefs. In Persian thought, in God's point of view every creatures are equal and being far or close is meaningless because the presence of God is equally everywhere. Using perspective and optic principles is meaningless So in Iranian visual art and architecture and things are shown in the same size, besides they are far or near. That is because of the priority of God's point of view from above. But in European Gardens, man's experience in his environment and his point of view is first and most considered and in priority.

### **Man and Nature**

The Persian Garden as a part of the whole natural world were not the imitation of nature; however nature was the main context of Iranian inspirations, translated symbolically into geometric shapes concerning spiritual and physical aspects.

Persian Gardens, in opposite of Italian renaissance gardens and after that French ones, were not to opposed themselves or demonstrate their mastery over nature. Their relationship with the nature was identified in restraining and very precise use of it, all with very deep respect.

Iranians did not prune the bushes and trees in various shapes, they just did it as sufficient and let the plants be themselves and live as they are.

Both Iranian and western designers were to idealize nature in their gardens but they did it with two very different distinct methods and goals. English designers tried to make their gardens more and more inspired by paintings of the Romantic period while Iranians were inspired by the description of paradise they had read in their religious book like *Avesta* and Holy *Quran* and the imagination they had got from it. We are also observing of the inspiration of religion and enjoying the first English Gardens of Eden Garden descriptions in Bible but soon England got far from this kind of approach, while we can see the continuity of it even in current garden designs here in Iran. It can be obvious if we concern that Italian renaissance gardens were emerged from the rediscovery by Renaissance scholars of classical Roman models and were based on renaissance principles and the humanism concealed in them.

Also the rectangular or rectilinear theme of the garden is often extended to the water features, which may be used to quarter the garden. This layout is echoed in the four rivers of the Garden of Eden, and much of the use and symbolism of the paradise garden is derived from this connection. The contrast between a formal garden layout with the informality of free-growing plants provides a recurring theme to many Persian Gardens.

### **Chahar Bagh**

While English Gardens were totally non-geometrical and conformed with the natural slope of their context, the Persian garden had a very precise and clear geometry from the very first days of its existence. This geometry is following a single and unique pattern called *Chahar Bagh*. This pattern is not presenting a single shape but the general method of Iranian geometry in the gardens.

### **History and Continuity**

The root of this pattern goes to the very ancient history of Iran- *Cyrus The Great* and the first prototype is his seasonal garden -the *Pasargadae* that is still alive and remarkable. While

western gardens were always transforming and floating between geometrical and non-geometrical plans, the continuity of using the *Chahar Bagh* geometry can still be observed in current Persian garden design after about more than two millenniums. This is representative of nobility and ability of this pattern in approving needs of Iranians from the late past up to now.

The base of *Chahar Bagh* pattern is in Iranian's belief in the Four elements and the sanctity of them before and after Islam. These elements are soil (earth), air (sky), fire (light and plants) and water. Manifestation of the four elements is not only found in geometrical pattern of *Chahar Bagh*, but also the deep respect to them can be observed in every details of the Persian Garden.

Therefore Iranians created a unique culture of garden design that indebt its long survival to its creative characteristics.

### **Functions**

Another difference between Persian Garden and the gardens of Europe is the diversity of function in Persian Gardens. It means that while French Gardens were usually built around castles and palaces and English ones has been defined to be allied to residence since 1840, Persian Gardens has covered several and totally different functions such as mausoleum, governmental gardens, leisure gardens, garden-cities, garden-houses, garden-castle, garden-street and so on.

### **Module**

The modular system of Iranian garden let this feature to respond in several issues, from small to huge, from home-gardens to the garden-cities. This represents the creativity and intelligence that has applied in arrangement of geometry and module in Iranian garden.

### **Climatic Conditions**

As we know, great part of Iran has been consisting of arid and deserted lands, so the difficulty of creating gardens in this kind of place in comparison with prosperous territories

of Europe is obvious. Although creating gardens in such areas seems really impossible, but we can see that Iranian designers created a technology that converts all the threads of this arid climate to real desired opportunities for making beautiful Persian paradises. This is a very remarkable point that we can say this genius and creative battle of Iranians against their stingy and harsh nature is the most important human value of Persian Gardens. So that Persian Gardens seems more like green miracles than some human-made places in their arid setting.

Because of the very arid climate in most part of Iran, the Persian Gardens are not so vast but instead their rare characteristics of weather and view made them indefinitely precious as a jewel in their context.

### **Technology of water supply**

Green gardens represented the concept of heaven and the reward of God, which contained water as the symbol of life and Flower as the result of flowing life. Water symbolized life, as it was believed to be the source of life which finds its inspiration in the value associated with water in Iran's dry climate.

The question is that how Iranians supply water to irrigate their gardens in such dry areas while gardens of Europe enjoy of endless supplies of the rain and rivers.

### **Qanat**

To reach water supplies under the earth, Iranians created the method of digging relevant wells. This technology is called *Qanat*: A form of underground tunnel, below the water tables. It belongs to the time of Achaemenids kingdom. The noticeable point about this ancient technology is the continuity of using it in current time. Still a significant part of Iran got their water consumption from *Qanats*.

To overcome the nature and through the great ambition of creating beauty in anyway, Iranian people has gone over 60 kilometers through desert to that their *Qanat* reaches the water-tables underground and brought water from such a long distance toward their beautiful ad

precious gardens. Through this we can find the value of water for Iranians and their strong desire to create beauty despite all difficulties.

Well-like structures then connect to the *Qanat*, enabling the drawing of water. Alternatively, an animal driven Persian well would be used to draw water to the surface. Such wheel systems could also be used to move water around surface water systems, such as those which exist in the *Chahar Bagh* style.

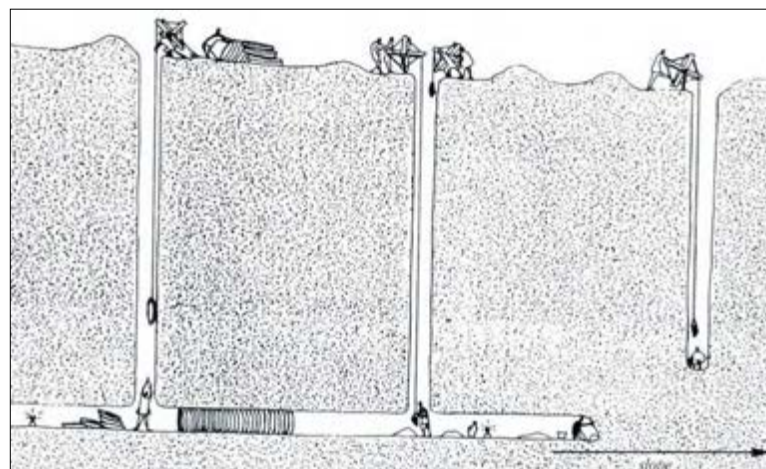
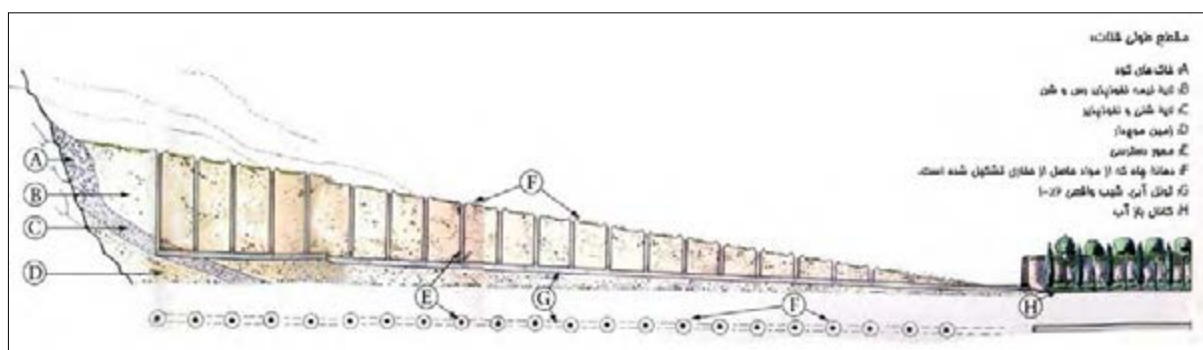


Fig 3-80. Qanat construction style  
(Source: the Persian Garden: echoes of Paradise, 1998, pp. 26-27)

### Water Circulation System

Considering this value and precision, the matter of management for this precious substance is very important. Iranian designers has done this work in the best way either that can be observed in organized and accurate pattern of streams or *Jubs*, fountains, pools, pound and precise and regular arrangement of irrigation and water circulation in Persian Gardens.



For this reason and to consume the least amount of energy, Iranian designers used the natural slope of earth in a perfect way.

Also trees were often planted in a ditch called a *Jub*, which prevented water evaporation and allowed the water quick access to the tree roots.

### **Plants**

Flowers and trees symbolizing rebirth of life were natural elements that had a lot of respect and importance in Iranian culture as it was used in the name of Persian gardens: *Khaneye gol* (flower house).

### **Species**

There are plenty of reasons why a plant is chosen for a Persian Garden, whether in the mid of desert or near the seas or rivers. These reasons vary from their medical use to their looks and use and even their symbolic qualities. Thus, all the plants have very precise and particular locations.

All these qualities are demonstrated in these tables:

Symbol	Function- Trait	Plant Location	Name	Shade plants	Persian Garden Trees
Truthfulness, Power of Life and Fertility	Umbrageous and creating diversity in site and landscape, Evergreen	On the main street in a row formation	Palm		
Liberty	Umbrageous, creating diversity in site and landscape, making place distinctive	On the main street in a row formation	Cedar		
Magnificence	Umbrageous and creating diversity in site and landscape, having different colors in different seasons	On the main street in a row formation	Chenar		
Power in Weakness, Spring and Womanhood Nature	Creating scene of another place inside garden, and medical qualities	Near the main fountain	Willow		
Distinctive Power And Silence	Windbreaking and use in building construction	On the margin of the main street, safe from wind and sometimes on the main paths	Poplar		
Compatibility, Productivity and Courtesy	Umbrageous and medical uses of the leaves	By the wall of the garden and sometimes on the main axis of garden	Zaban-gonjeshk		
Symbol of Yin-Yang and Lunar-Solar year	Rapid growth and use in building construction	On the margin of the main wall by water stream	Tabrizi		

Symbol	Function- Trait	Plant Location	Name	Fruiting Trees	Persian Garden Trees
Life, Submission	Silk industry, Edible use	Around alleys of the garden	Berry		
Wisdom, Immortality	Edible use	Inside garden parts, Far from the eye	Vine		
Love, Peace, Divinity and Cognition	Edible use	Parts around main streets	Apple		
Fertility and Long Life	Edible use, Wood and painting industry	By the main wall's margin and water streams	Walnut		
Fertility, Life, Peace and Prosperity	Edible use, Medical traits	On the corners of the garden or curved places	Fig		
Love, Birth and Fertility	Umbrageous, Medical traits and edible use	By the garden wall, between Annab and Zaban-gonjeshk	Senjed		
Happiness, Lust, Truthfulness, Blessing, Victory, and Life Tree	Decorative use, Umbrageous and Diversity	Sparse in the main street	Palm(Date)		
Rebirth of the Spring	Shading, Medical traits and edible use	By the garden wall, between Annab and Zaban-gonjeshk	Annab		

In Persian Gardens, flowers are usually planted on the margin of paths and under trees. Iranians use to choose flowers, which have many useful qualities like desired scent, medical attributes or edible parts.

### **Light Regulation**

Sunlight and its effects were an important factor of structural design in Persian Gardens. Textures and shapes were specifically chosen by architects to harness the light.

Due to the dry heat of Iran, shade is also very important in the garden, without which it could not be usable. Trees and trellises largely feature as biotic shade; pavilions and walls are also structurally prominent in blocking the sun.

### **Architecture**

#### **Enclosure**

The Persian word *Pardis*, from which the word paradise comes, meant a walled garden as it derives from *Par* (around) and *Dis* (wall). The paradise Garden takes some of its character from its original arid or semi-arid homeland. The most basic feature is the enclosure of the cultivated area. This excludes the wildness of nature, and includes the tended, watered greenery of the garden. The commonest and easiest layout for the perimeter walls is that of a rectangle, and this forms one of the prime features of this kind of garden.

All Persian Gardens have walls all around their borderlines. This element is very vital for preserving gardens from damages and strains. In the arid climate of Iran, preservation and survival of gardens can be possible with such these enclosures, that are not needed in areas like Europe.

But it's interesting to know that *Prior* to the Italian Renaissance, Italian Medieval Gardens were enclosed by walls, and were devoted to growing vegetables, fruits and medicinal herbs, or, in the case of monastery gardens, for silent meditation and prayer. Therefore, we can see common roots between the latest world gardens in Persia and Egypt and the western oldest gardens.

**Description of Ancient City of Sigiriya- Sri Lanka- Date of Inscription on WH list: 1982**

**Brief Description**

The ruins of the capital built by the parricidal King *Kassapa I* (477–95) lie on the steep slopes and at the summit of a granite peak standing some 370 m high (the 'Lion's Rock', which dominates the jungle from all sides). A series of galleries and staircases emerging from the mouth of a gigantic lion constructed of bricks and plaster provide access to the site.

Sigiriya (Lion's rock) is an ancient rock fortress and palace ruin situated in the central *Matale* District of Sri Lanka, surrounded by the remains of an extensive network of gardens, reservoirs, and other structures.



Fig.3-81. Ancient City of Sigiriya

Sigiriya may have been inhabited through prehistoric times. It was used as a rock-shelter mountain monastery from about the 5th century BC, with caves prepared and donated by devotees to the Buddhist *Sangha*. The garden and palace were built by King *Kasyapa*. Following King *Kasyapa's* death, it was again a monastery complex up to about the 14<sup>th</sup> century, after which it was abandoned. <sup>69</sup>

### **History**

In the heart of Ceylon the extraordinary site of Sigiriya- a lofty rock of reddish gneiss dominating from a height of nearly 150 meters, the neighboring plateau- has been inhabited since the 3rd century B, as attested to by the graffiti, which proliferate in the grottos and the shelters of the Buddhist monks. Yet, the fame of the "Lion Mountain" is due to one single factor - during a short period in the 5<sup>th</sup> century AD., a sovereign established his capital there. The *Kassapa I* (477-495), son of *Dhatusena*, only came to power after he had engineered the assassination of his father and had momentarily, dispossessed his Brother Justly fearing the *Vengeance* of *Kassapa* had a fortified palace built on a rock of Sigiriya which was reputed to be impregnable, it was there that he was defeated after a short but cruel battle in 495, following which he cut his throat. After the death of *Kassapa*, *Moggallana* returned the site of Sigiriya to the north, thus condemning it to progressive abandon, During the eleven years that *Kassapa* resided in Sigiriya, he created a residence of exceptional splendor and founded his capital there - unpressive vestiges of which are still extant\* At the summit of the rock is the fortified palace with its ruined buildings, its cisterns and its rock sculptures. At the foot of the rock, are the two quarters of the 1-r city which are defended by a massive wall: the eastern quarter perhaps postdating the 5th century, which has not been sufficiently excavated, and the aristocratic quarter of the capital of *Kassapa I* noteworthy for its terraced gardens embellished by canals--- and fountains, as well as for numerous monumental remains which have recently been disengaged from the forest which had invaded the runs, Halfway up the rock, within an inaccessible rocky shelter in the vertical wall of the western facer are rock

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<sup>69</sup> [http:// whc.unesco.org/](http://whc.unesco.org/).

paintings which have brought universal acclaim to the site of Sigiriya aides of the Clouds", 21 non-identified feminine figures, comparable to the most beautiful creations of *Ajanta*.<sup>70</sup>

### **The garden**

The gardens of the Sigiriya City is one of the most important aspects of the site as it is among the oldest landscaped gardens in the world. The gardens are divided into three distinct but linked forms; water gardens, Cave and boulder gardens, and terraced gardens.

### **The water gardens**

The water gardens can be seen in the central section of the western precinct. Three principal gardens are found here. The first garden consists of an island surrounded by water. It is connected to the main precinct using four causeways, with gateways placed at the head of each causeway. This garden is built according to an ancient garden form known as *Chahar Bagh*, and is one of the oldest surviving models of this form.

The second contains two long, deep pools set on either side of the path. Two shallow, serpentine streams lead to these pools. Fountains made of circular limestone plates are placed here. Underground water conduits supply water to these fountains which are still functional, especially during the rainy season. Two large islands are located on either side of the second water garden. Summer palaces are built on the flattened surfaces of these islands. Two more islands are located further to the north and the south. These islands are built in a similar manner to the island in the first water garden.

The third garden is situated on a higher level than the other two. It contains a large, octagonal pool with a raised podium on its northeast corner. The large brick and stone wall of the citadel is on the eastern edge of this garden.

The water gardens are built symmetrically on an east-west axis. They are connected with the outer moat on the west and the large artificial lake to the south of the Sigiriya rock. All the pools are also interlinked using an underground conduit network fed by the lake, and connected to the moats. A miniature water garden is located to the west of the first water

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<sup>70</sup> <http://whc.unesco.org/>.

garden, consisting several small pools and water courses. This recently discovered smaller garden appears to have been built after the *Kasyapan* period, possibly between the tenth and 13<sup>th</sup> centuries.<sup>71</sup>

### **The boulder garden**

The boulder garden consists several large boulders linked with winding pathways. The boulder gardens extend from the northern slopes to the southern slopes of the hills at the foot of Sigiriya rock. Most of these boulders had a building or pavilion upon them. There are cuttings on these boulders that were used as footings for brick walls and beams.

The audience hall of the king was situated in the boulder garden, the remains of which are seen on the flattened and polished summit of a large boulder. There is also a 5 meter long granite throne in this hall. The throne is carved from the boulder itself, and is not separated from it. Another notable feature in the boulder garden is the Cistern rock, named after a large, carved cistern on top of the rock. A large archway, created by two boulders, provides access to the terraced gardens.<sup>72</sup>

### **The terraced garden**

The terraced gardens are formed from the natural hill at the base of the Sigiriya rock. A series of terraces, each rising above the other, connect the pathways of the boulder garden to the staircases on the rock. These have been created by the construction of brick walls, and are located in a roughly concentric plan around the rock. The path through the terraced gardens is formed by a limestone staircase. From this staircase, there is a covered path on the side of the rock, leading to the uppermost terrace where the lion staircase is situated.<sup>73</sup>

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<sup>71</sup> [http:// wikipedia.com/](http://wikipedia.com/).

<sup>72</sup> Ibid

<sup>73</sup> Ibid

### **Comparative analysis on the Persian Garden and Sigiriya**

The ancient Persian form of *Chahar Bagh* is clearly obvious in the water gardens of Sigiriya. As we said the principles of the Persian Garden geometry are *Chahar Bagh* system, symmetry and water circulation based on precise axis. All of these principles had been concerned in designing and building gardens of Sigiriya. We know that the archetype of *Chahar Bagh* has been created in the famous garden of *Pasargadae* that was created for *Cyrus the Great* in 500BC and this is the oldest evidence of this pattern in the world.

Also the terraced gardens of Sigiriya can be compared with *Bagh-e Abas Abad* in *Behshahr* in the north of Iran. Both gardens are built on natural hills and both are terraced.

So we can see how the Persian Garden has influenced gardens of faraway lands and countries.



### **3.d. Integrity and Authenticity**

The nine gardens nominated to be included in the world heritage list are selected from hundreds of gardens existing in Iran with different background typologies and also located in diverse climatic conditions. One of the important measures in their selection has been their dynamism and vulnerability against affective factors in a course of hundreds of years. These gardens which belong to different provinces at various parts of Iran are unique example of Iranian history. They have somehow managed almost successfully to overcome all factors keeping their integrity and authenticity as Persian Gardens.

Moreover they not only represent the evolution of Persian Gardens but also reveal the flexibility of their patterns according to the local conditions and culture. In addition, their management being under the supervision of ICHHTO warrants special attention for their conservation.

The authenticity of each garden is briefly and separately discussed. However it must be pointed out that on the whole their authenticity regarding design, technology, material, setting as well as other aspects of the intangible heritage based on the science of restoration, natural environment and the indigenous culture. Fortunately, during the restoration and maintenance of these gardens, traditional knowledge and building materials have been utilized. Furthermore, regarding their waterworks, traditional systems of water supplying such as *Qanat* have been seen in all of them except for Shiraz and Isfahan gardens in which urban development has forced to shutting down *Qanat* sources and replacing them with wells. However the water circulation system in the gardens has been kept in their original conditions. Moreover, *Bagh-e Abas Abad* of Behrshahr and *Ancient Garden of Pasargadae* have preserved all of their elements as an archeological site.

In most of these gardens the plants and their layouts are the continuance of the historical tradition of Persian landscape gardening. Regarding their surrounding landscape, it must be said that those gardens which are located in rural areas have kept their virgin landscapes but those situated in urban areas are subject to regulations approved in past or present respecting their landscapes.

The integrity of these nine gardens was studied not only from a visual point of view but also from a structural and functional one. Fortunately, all the selected gardens were used publicly

from a functional perspective and it was tried to keep the integrity of their entire elements from a structural perspective. In the following the integrity and authenticity of each nominated garden will be reviewed and analyzed separately.

### 3.d. 1. Ancient Garden of Pasargadae

#### Authenticity

Considering the fact that this garden has already been registered as a world heritage site, an array of conservative and restorative arrangements has been envisaged in order to warrantee the continuance of its authenticity and integrity within the framework of short, middle and long term management programs which are underway according to a precise schedule.

As the prototype for the Persian Gardens, *Ancient Garden of Pasargadae* has preserved its original plan in the form of archeological remains. Based on geophysical maps, archeological investigations prove that no intervention has taken place in it.

*Ancient Garden of Pasargadae* as an archeological world heritage site possesses all traditional construction techniques and principles existing in the Achaemenidss architecture with no trace of any interventions being observed in original techniques of this prototype of the Persian Gardens. According to historical evidence and documents, the garden stands at its original position. Materials used in *Pasargadae* complex including the royal garden are mostly stones or mud bricks which have generally kept their authenticity, a fact substantiated by archeological remains.



Fig. 3-82. View of Ancient Garden of Pasargadae

**Integrity**

*Ancient Garden of Pasargadae* has completely preserved its visual integrity as one of the important constituents of *Ancient Garden of Pasargadae* world heritage site dating back to the Achaemenidss era. This historical garden has kept its structural integrity within the framework of an acknowledged plan accompanied by its related elements such as palaces, pavilions and waterways. Based on archeological remains and evidence, the relation between its architectural elements can be comprehended and assessed. At present the garden has lost its function as a royal garden within *Pasargadae* complex and as an archeological world heritage site has acquired research and museum functions.



Fig. 3-83. Aerial view of Pasargadae

### 3.d. 2. *Bagh-e Eram*

#### Authenticity

##### Design

What remains today of the garden mostly belongs to the Qajars era but in fact *Bagh-e Eram* of Shiraz dates back to the 5<sup>th</sup> century LAH and the Seljukids era. Changes made in the garden in various periods were actually part of its historical development. Considering present historical character of the garden, it can be said that its design is authentic and in full accordance with genuine Persian Garden design.

*Bagh-e Eram* design has adopted Persian landscape gardening methods and remains of previous periods have been preserved in it. The *Chahar Bagh* pattern as well as garden paths are according to the original old model of the Persian Garden making.



Fig. 3-84. View of *Bagh-e Eram*  
(K.Sarvestani, Gardens of Shiraz)

Architecture of the existing pavilion of the garden belongs to the Qajars era. This structure is regarded as one of the most significant buildings of the period in Shiraz and serves as an architectural reference of Qajars monuments.



Fig. 3-85. Main pavilion of *Bagh-e Eram*  
(ICHHTO of Shiraz)

Decorations of the garden pavilion and eastern frontispieces include all kinds of paintings, tiling and stone cutting and ornamentations are examples of relevant motifs, forms and techniques prevalent during the rule of the Qajars and the Zands in Shiraz.



Fig .3-86. Haft Rang Tiles in main pavilion  
(M.Malekpour ,2009)

Water circulation inside the garden follows the model of water systems in the Persian Gardens based on regular geometrical circulation of water. Therefore, the system has kept its

authenticity. Urbanization during the last decades has limited the possibility of complete exploitation of the old spring supplying the water needed in the garden. At present, its water is supplied by two deep wells dug inside the garden. It is noteworthy that the waterworks system of the garden has followed the original design and system used in the Persian Gardens and can be regarded as authentic.



Fig. 3-87. Path of water in *Bagh-e Eram*, 2009



Fig. 3-88. Aerial photo of *Bagh-e Eram* (Google Earth)

In the Persian Gardens, plants have been arranged according to specific orders depending on the plant species in question. Plants of *Bagh-e Eram* include several kinds of trees, floriferous and non- floriferous plants which have kept their authenticity. In some plants, authenticity concerns their species and in long living plants, it is related to their existence. Examples are

the well- known old cedar trees of the garden mentioned in travel accounts of those travelers who have visited the garden a long time ago. Other garden trees have also maintained their authenticity.



Fig.3-89. Plants in *Bagh-e Eram* (H.Naderi, 2009)

All around *Bagh-e Eram* of Shiraz has been enclosure showing clearly old borders of it. Due to public function of garden as an educated center, nowadays the enclosure in part has been replaced with fence visible for public.

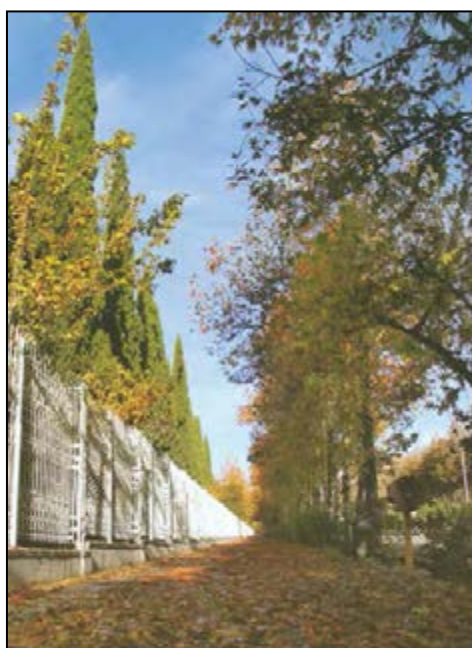


Fig .3-90. Fence of *Bagh-e Eram*  
(M.R.Sharif, Bagh-e Eram)



### **Building Materials**

Materials used in the garden pertain to the Qajars era and have been preserved in full so enjoy authenticity. Of course, in few spots replacements were required due to depreciation. The materials comprise those used in the structure, shell and decorations of the building during Qajars dynasty with their authenticity kept intact regarding type, color, size and layout.



Fig .3-91. Eastern view of main Pavilion (H.Naderi 2009)

### **Workmanship & Technology**

Due to the availability of master workers familiar with traditional techniques of Persian architecture, they have been employed in all restoration phases in various parts of *Bagh-e Eram*.

All restoration activities in this garden have been done by traditional artisan during time.

For this reason all workmanship in various part of this masterpiece are according to local architecture and decoration techniques.

Due to reorganizing this garden as an educated center for botanical studies the former traditional methods have been linked to modern and academic techniques for cultivation and gardening.

### Setting

Original place and location of this garden has been maintained.



Fig. 3- 92. Location of *Bagh-e Eram* (Google Earth)

### Integrity

*Bagh-e Eram* of Shiraz had a private function but at present is open for public use as a garden-museum. Additionally, it serves as a proper scientific center for botanical studies conducted by Shiraz University students. Therefore, its functional authenticity has been preserved in a satisfactory manner in addition the visual integrity of this monument has been preserved and all structural features are original therefore the garden has structural integrity. Indeed this garden is a center for training traditional as well as modern technology of cultivation



Fig .3-93. *Bagh-e Eram*,2008 (ICHHTO of Shiraz)

### 3.d. 3. *Bagh-e Chehel Sotun*

#### Authenticity

#### Design

Plan and layout of the garden maintained its authenticity. *Chehel Sotun* palace is one of the first buildings in which vast usage has been made of decorations, mirror works, large wall paintings, and wooden columns with *Muqarnas* capitals. All the walls of the palace were adorned by full sized mirrors, colored glasses and beautiful paintings. All doors and windows were inlaid or fretworks and it was attempted in recent restorations to preserve and stabilize these decorations. During several phases of restoration, many painted decorations have been uncovered by removing their gypsum overlays and have returned to their original conditions. Among them were repairs conducted in the year 1956 in order to maintain wall paintings at the outside space of *Chehel Sotun* palace. In the following an example of authenticity observed in remaining decorations of the monument is presented.

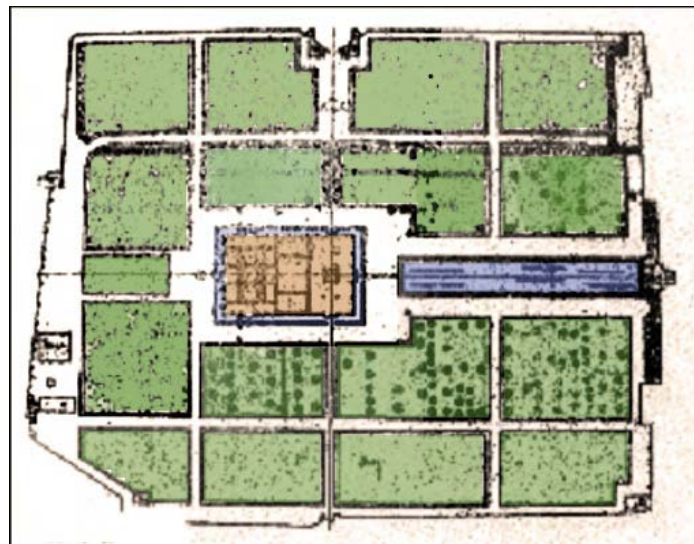


Fig. 3-94. Garden map during the rule of the first Pahlavi and the construction of a frontage at the northern entrance (NHBI Base)



Fig .3-95. *Bagh-e Chehel Sotun* pavilion in 1959 (NHBI Base)

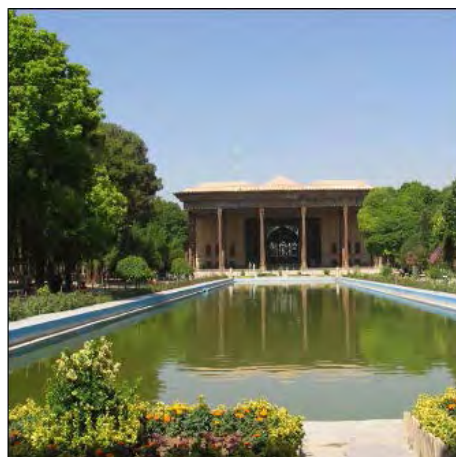


Fig .3-96. *Bagh-e Chehel Sotun* pavilion in 2009 (NHBI Base)

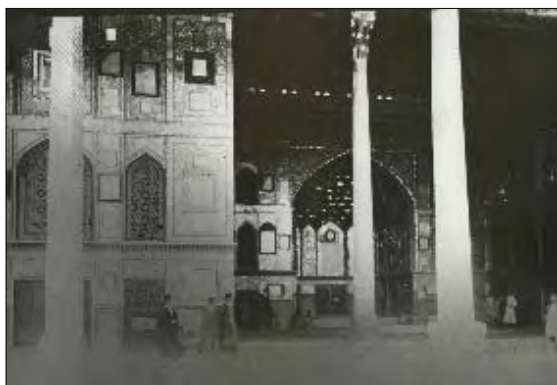


Fig .3-97. *Bagh-e Chehel Sotun* in Qajars period (NHBI Base)



Fig.3-98. *Bagh-e Chehel Sotun* frontage at present (Fazeli -Nezhad, 2009)



Fig. 3-99. Maintaining pedestal decorations (Fazeli-Nezhad, 2009)

Water is one of the most important elements existing in Persian Gardens and there is a strong tendency to show its presence. Therefore, best usage possible has been made of it in *Bagh-e Chehel Sotun*. The most significant symbol of water display in the garden is the pool fronting the palace in which its picture is reflected. The resulting image is so attractive that many people believe the garden is so called because of this (*Chehel Sotun* in Farsi means forty columns equaling twenty columns of the palace plus twenty columns generated by its reflection in the water)

But it is not really so although it has substantially added to its dignity. Therefore, it has always been tried to preserve the pool which is quite in harmony with the body space of the monument. Water resources of *Bagh-e Chehel Sotun* at present are a deep well with a diameter of three inches as well as the pool in front of the building which has an area of 1728 square meters, a depth of 1.5m and a capacity of 2592 cubic meters. Irrigation of the garden is currently manual because urbanization has discontinued the exploitation of the old irrigation system. But the traditional system of garden irrigation as well as its clay pipes (*Tanbusheh*) and *Madis* has maintained its optimal body condition and original traditional structure.

Formerly, irrigation was done via clay pipes (*Tanbusheh*) connecting brooks and the water pool but urbanization has disrupted such a system, although there is still the potential for reviving old paths around the palace in order to display better the water motion inside the garden.



Fig. 3-100. The pool fronting the middle pavilion (Fazeli-Nezhad, 2009)

One of the factors that provide the opportunity for optimal planting in Persian Gardens is the order of cultivation which provides better access to light, water and soil for various plants species in the garden. Such order also exists in *Bagh-e Chehel Sotun* as before so to warrantee its vitality and freshness

At present the vegetation of *Bagh-e Chehel Sotun* consists of about 1050 trees and many shrubs. The trees are: Persian pines (1625 trees), elm-trees (292 trees), black maples (75 trees), plane trees (61 trees), juniper tree (25 trees) and a few cedar, mulberry, poplar, fig, *Zalzalak* trees and a limited number of small trees called *Umbelliferous* locust trees planted in flower beds adjacent to *Sepah* Street. In addition, there are three tri-colored shrubs at the western entrance and near the building and few young laurel shrubs planted on the northern side of flowerbeds south of the pool and the building in three meters intervals.

Historical documents remaining from *Bagh-e Chehel Sotun* do not reveal its plants type but indicate the geometrical order of their planting which exists not only in this garden but also in all the other Persian Gardens. This factor has contributed greatly to the vitality and vivacity of the garden during its lifetime.

In a picture drawn by *Kaempfer* of Safavids *Divan Khaneh*, *Bagh-e Chehel Sotun* has been depicted in this way i.e. three corridors under the cover of plane trees foliage with trees encircling the palace building as well as lines showing *Karts* borders.

In other pictures drawn later, still no mention is made of garden plants. *Seyed Reza Khan* Map only emphasizes the square and rectangular shaped *Kartbandi* of the garden which is also drawn in detail by *Buduen*. In *Buduen's* map plane trees have been mentioned, a species now found abundantly in *Bagh-e Chehel Sotun*. (Refer to description of *Chehel Sotun*)



Fig. 3-101. A row of plane trees  
(Fazeli-Nezhad, 2009)



Fig.3-102. The oldest plane tree in the garden with a diameter of 251 cm  
(Fazeli-Nezhad, 2009)

### **Building Materials**

Usage of materials in restoration of this garden has harmony with the complex and its environment. In other word the indigenous materials is seen all over the garden. Usually it has been tried to keep the authenticity of materials regarding to color, size, processing manner and the layout type, compatible with the entire complex.



Fig.3-103. Stone fountains around the building  
(Fazeli-Nezhad, 2009)

### **Workmanship & Technology**

Another aspect in which authenticity has continued from the past until now is executive techniques of restorations conducted in garden complex. Previous cases of pictorial monitoring generally support this claim. Of course, modern scientific methods of restoration have always been optimally used with traditional techniques when necessary, for example during restorations of palace hall columns. (See Restoration of *Ali Qapu*, *Hasht Behesht* and *Chehel Sotun* reinforcement in Appendix 4)



Fig .3-104. Restorations upon the outer columns of Chehel Sotun palace, 1352 SAH (NHBI base)

Fig .-105. The wooden roof truss and ceiling apparatus maintained in their authentic condition (Fazeli-Nezhad, 2009)

### **Setting**

All existing documents, descriptions, maps and pictures indicate setting authenticity of *Chehel Sotun* Palace and Garden.



**Integrity**

At present, the main function of *Bagh-e Chehel Sotun* is garden-museum which intends to introduce spatial and body values of the monument in the best way possible.

*Bagh-e Chehel Sotun* has maintained all the visual elements of the Persian Gardens in connection with the environment. It has continued to display the real landscape of the Persian Gardens throughout its lifetime.

*Bagh-e Chehel Sotun* serves as a multi-functional and compositional masterpiece of architecture which gathers together all the original elements of The Persian Gardens and now is used by the public in Isfahan as a museum-garden.

The garden wall in the Persian Gardens has always had a protective function which continues until now. The wall still stands on all four sides of the garden making it possible to separate its precinct from its surrounding space in order to enhance maintenance and conservation measures.

### 3.d. 4. *Bagh-e Fin*

#### Authenticity

#### Design

Design of *Bagh-e Fin* has been done with respect to the principles of Persian Gardens and in coordination with the dominant climate. Such an order can be found in different levels of the garden. *Bagh-e Fin* has been configured in such a way that maximum usage of plants regarding the hot and dry regional climate is possible. In other words, the plant system accompanied by the body system has formed the garden design. What remains of *Fin* museum-garden complex today as well as descriptions of its past show that its garden making design has largely kept its integrity and authenticity without any significant changes. Previous forms of *Karts*, specific divisions in garden grounds as well as access routes have continued.

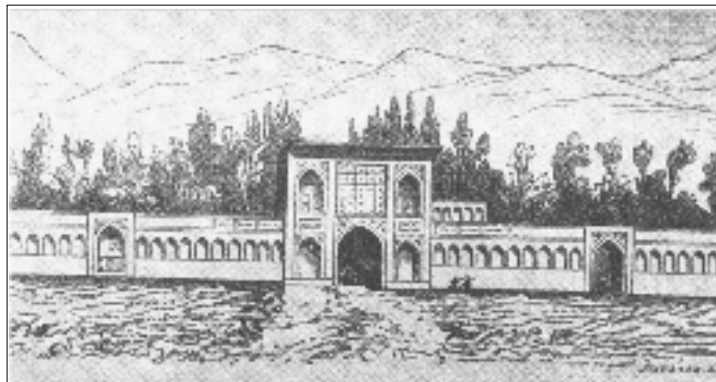


Fig 3-106. Frontispiece design of *Bagh-e Fin* (Eugene Flandin)



Fig .3-107. Frontispiece of *Fin* garden at present  
(preserving its design authenticity)



Fig . 3-108. Qajars basin house niches after restoration (Kashan ICHHTO Archives)



Fig . 3-109. Qajars basin house niches before restoration (Kashan ICHHTO Archives)

Studying authenticity regarding architectural design is possible by using old photos showing all of garden buildings. They reveal that all former spaces have been kept intact and the whole restoration operations have been conducted respecting the authenticity of the monument as well as prolonging its lifetime. In the following, authenticity of these spaces is studied. Due to the similarity of old and new photos of Qajarieh pavilion and its decorations, during restorations it was tried to keep the original form as well as most of its decorations.



Fig .3-110. An old photo of Qajarieh Shotor-Galu (NHBI,Base)



Fig .3-111. The Shotor-Galu at present time (Khoshnood, 2009)

Studying the remaining decorations show that most of them have kept their original forms. In spaces needing restoration, after conducting required operations, decorations have been repeated respecting their original color and design. Among existing instances are decorations remaining inside Qajars bath house and pavilion. Inside the latter structure, after the required restorations were conducted, some decorations were reconstructed in their initial shape. Stuccoes of some spaces serve as samples of such decorations in restored walls.



Fig . 3-112. Stucco decorations inside the bath house of the garden

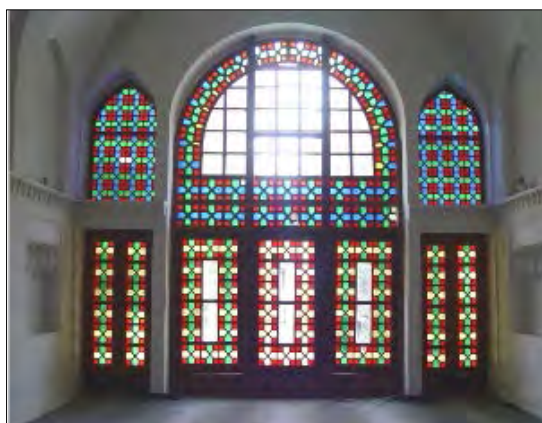


Fig .3-113. Glass decorations of Orsi windows in the alcove (Khoshnud)

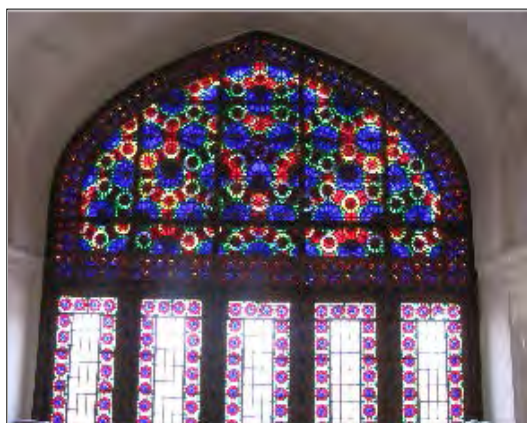


Fig . 3-114. Inner view of entrance frontispiece decorations





Fig.3-115.Qajar pavilion decorations (Khoshnood)

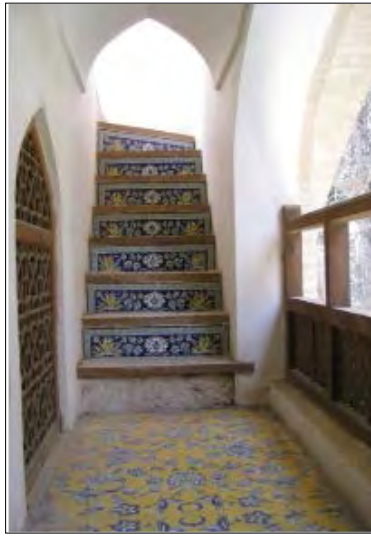


Fig.3-116. Painting decorations remaining upon the entrance of Safavid pavilion (Khoshnood)

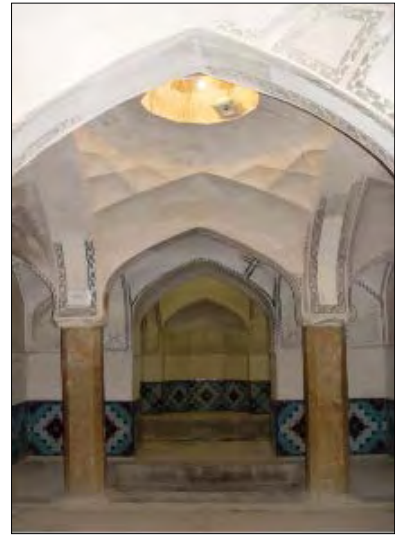


Fig.3-117.Stucco and tiling decorations in the bath house (Khoshnood)



Fig.3-118 .Old photo of Qajar pavilion decorations (Jeyhani, 2007)

Comparing old and new photos of Qajari *Shahneshin* shows that the old latticed five-door has been transformed into a three-door and two lateral doorways. Moreover, the form of the arch above the doorway has been changed. Of course, it must be noted that such changes have taken place gradually in a course of time lasting until about one hundred years, but since then its present form has been kept intact. A noteworthy point is the continuance of wooden fretwork decorations of sash windows.



Fig. 3-119. The Shahneshin axis fronting the Hows-e Joosh (Khoshnood)



Fig.3-120. Orsi window decorations of Safavid pavilion (Khoshnood)

Considering the old photo (before restoration) of *Shah Abasi* pavilion and comparing them with new photos show that there are no traces of previous decorations under the pavilion arch probably due to lack of access to valid documents during restoration but orthodox works under the pavilion arch still remain.



Fig.3-121. Safavid pavilion before recent conservation activities (Jeyhani, 2007)



Fig.3-122. Interior space Safavid pavilion (Khoshnood ,2009)

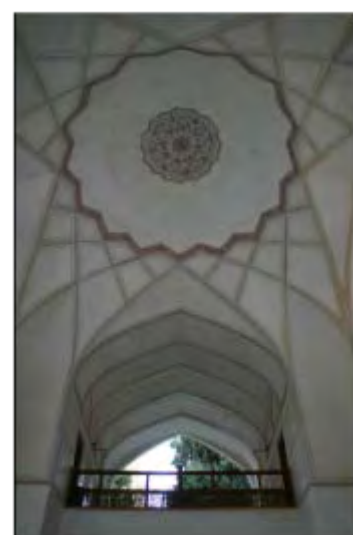




Fig .3-123. Qajar Howz khaneh during excavations in the Pahlavis era (ICHHTO Archives)



Fig.3-124. Qajar Howz khaneh during restorations (ICHHTO Archives)



Fig .3-125. Qajar Howz khaneh at present time (Khoshnood)

The system of water flow is part of a garden configuration within the framework of a well-thought geometrical order. It should be mentioned that water irrigation system of Fin garden has not been changed since in long time ago.

As a result, water motion and function from *Soleymanieh* Spring as far as *Mardaneh* basin house has kept its old system. Water supplying inside the garden takes place via three basic points namely (the Qajars pavilion, the gushing basin fronting Qajari *Shahneshin* and the Safavids pavilion) Water by means of brooks resulting out of such waterworks circulates all around the garden and irrigates its plants. Not only inside the garden but also outside of it, the system has kept its old route and order in order to flow water towards nearby gardens and farms.

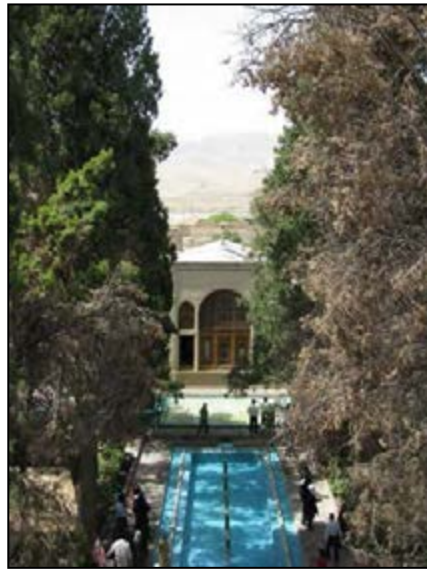


Fig. 3-126. The Hows-e Joosh and the 12 fountain (Khoshnood)

The majority of Fin garden plants are cedar trees such as *Kashi* cedars (*Cupressus Sempervirens*) as the continuation of an old tradition. Such a consistency can also be seen in the authenticity of plants system and design. Generally, plants were a device available to the garden constructor by which to highlight more the spatial system of the garden, a system still intact thanks to the tall and sturdy trees of *Bagh-e Fin*.



Fig. 3-127. Cedar trees of Fin garden planted on the way of Qajar pavilion in the past (Research Base of Fin-Sialk-Kashan)

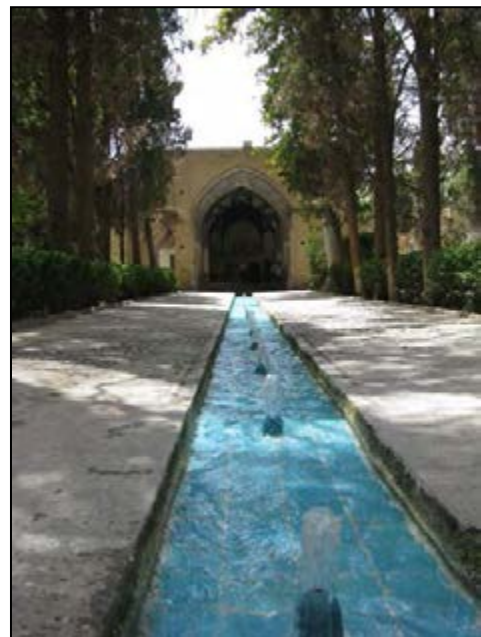


Fig. 3-128. Preserving the authenticity of Cedar trees standing on the way of Qajar pavilion (Khoshnood)



Not only the structure and totality of the fence form but also historical layers (remaining decorations) on the outer surface of the fence has been kept intact. In addition, the shape of mangers at the foot of the wall has been preserved in line with their original form and design.

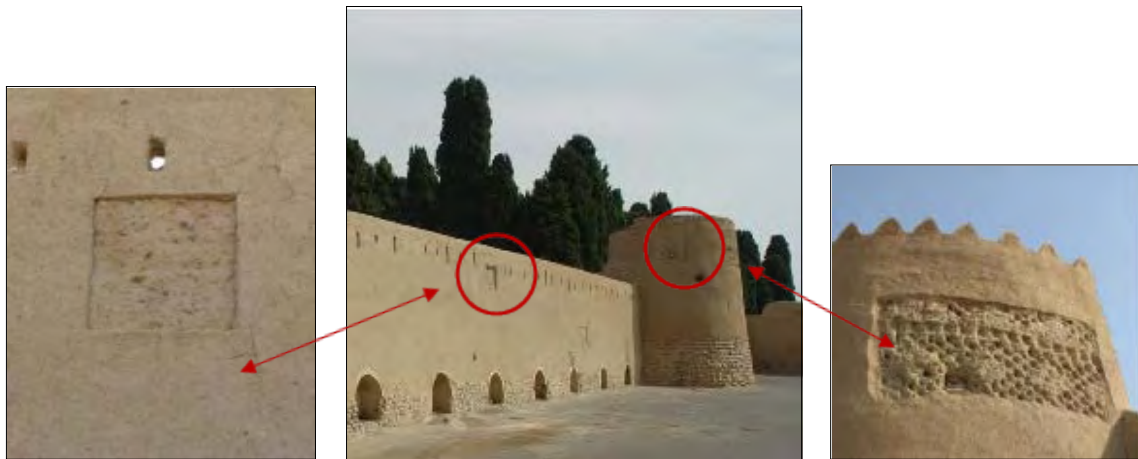


Fig. 3-129. Surrounding wall with towers (Khoshnood)

### **Building materials**

Utilization of materials consistent with the environment and the complex or in another words local materials can be seen in many spaces of the complex but despite their similarity regarding color, size, processing manner and arrangement in relation with the whole complex, it has been tried to make possible the distinguishing of original and restorative materials. Keeping the original position and condition of building materials (pavements) in garden grounds according to old pictures



Fig. 3-130. Before restoration (Kashan ICHHTO Archives)



Fig. 3-131. The restoration of the Khalvat-e-Karimkhani entrance wall)(Khoshnood)



Fig. 3-132. Usage of traditional materials (Kahgel) for covering the roof (Khoshnood)



Fig. 3-133. Garden grounds ,before restorations (Kashan ICHHTO Archives)



Fig. 3-134. The current pavement of complex (Khoshnood)



Fig. 3-135. Usage of indigenous materials within the local arrangement frame (Khoshnood)

### **Technology and Workmanship**

Aside body preservation, the most important factor for maintaining gardens has always been keeping healthy its plants. This has been achieved by following a traditional gardening technique. At present, modern science and technology have come to help traditional gardening but they are not very efficient in the absence of past experiences. This point has

been taken into consideration in the planting configuration of *Bagh-e Fin* resulting in a blend of past skills and current knowledge in order to achieve the best possible exploitation of garden spaces and plants.

Irrigation system in Fin garden has been merged with techniques such as clay piping (*Tanbusheh*) which has a long history in its waterworks.

For example, mention can be made of the *Khalvat-e Karimkhani* chamber complex in which it has been attempted to preserve local tradition and technology like: *Qataar-bandi* around walls and usage of *Muqarnas* inside niches which is exclusively done in Kashan region.



Fig. 3-136. The Muqarnases inside niches of Karimkhani private chamber rooms (2007)



Fig.3-137. Karimkhani private chamber portico (Khoshnood) chamber rooms (2007)

### Setting

The monument bed which presents the background for its formation is considered as a very important factor in preserving the authenticity of the monument proper. Actually, the position of *Bagh-e Fin* has not changed during the course of its history.

**Integrity**

All existing functions of the museum-garden complex serve its major function including: The conference hall in the upper chamber of the main frontispiece of the garden used for holding seminars and assemblies as well as the alcove used for introducing the character of the late Iranian chancellor, *Amir Kabir*.

*Bagh-e Fin* has maintained all the visual elements of Persian Gardens in connection with the environment. It has continued to display the real landscape of the Persian Gardens throughout its lifetime.

*Bagh-e Fin* serves as a multi-functional and compositional masterpiece of architecture which gathers together all the original elements of Persian Gardens.

### **3.d. 5. *Bagh-e Abas Abad***

#### **Authenticity**

The historical complex of *Bagh-e Abas Abad* with an area of about 420 hectares is considered as a governmental ensemble consisted of palaces, state gardens, an artificial lake, a dam as well as a very complicated and noteworthy waterworks system. It can be regarded as a masterpiece of water engineering and landscape designing in the humid climate of northern Iran.

#### **Design**

Due to the location of *Bagh-e Abas Abad* in a very humid climate as well as cultural and political problems of the country during the Safavids era and afterwards and because of its distance from the urban fabric, the complex lost its function as a magnificent royal palace-garden. But today it serves as a magnificent archeological site with a monumental and recreational function.

Thus considering the above mentioned points, the authenticity and integrity of the complex can be analyzed as follows:

Original design of the historical complex of *Bagh-e Abas Abad* has been preserved as a garden complex and based on archeological studies its plan is readable and distinct.

#### **Building materials**

Because the complex at issue has been recognized as an archeological site in the course of time, no restoration or reconstruction activity has been conducted in it. Therefore, all of its materials and the remainder of architectural spaces are still authentic.

#### **Workmanship**

As an archeological complex designed and constructed during the Safavids era, the site has complicated technical characteristics which was prevalent in most royal spaces of that time. Techniques of artistic and structural architecture including tiling, building materials and more

importantly the water supplying technology which was based on clay pipes (*Tanbusheh*) as well as physics laws are manifest in all parts of this masterpiece of engineering and no evidence is seen about any interventions leading to the loss of their authenticity.

### **Setting**

Position of all elements of architecture and garden making is original and no development project or major intervention resulting in their displacement has been conducted within the site.

### **Integrity**

The historical complex of *Bagh-e Abas Abad* in Behshar is located in a climate that enjoys four different seasons naturally. So that its form and color changes periodically although all visual elements of the complex which are connected to the environment have been preserved.

The complex as a masterpiece of engineering is in fact an interaction between landscape engineering, water engineering and civil engineering, each creating structures whose traces still remain partly evident.

Although pavilion structures have collapsed gradually but the structural integrity among these elements in their relation with other structures is recognizable without any interventions.

The historical complex of *Bagh-e Abas Abad* in Behshar which during the rule of the Safavids was considered as a terrestrial paradise with magnificent palaces, water jets and fountains as well as exceptional servicing and recreating spaces has now turned into a glorious architectural site with hundreds of unanswered questions. Despite its loss of functional authenticity as a royal garden, it has been transformed into a very important archeological and research site within the humid climate of northern Iran. Its significance regarding: biology, architecture, landscaping and water engineering fields is outstanding. At present, the site welcomes multitudes of people interested in various educational and scientific fields.

### 3.d. 6. *Bagh-e Shahzadeh* (Mahan)

#### Authenticity

#### Design

The design of *Bagh-e Shahzadeh* of Mahan has gone under very slight changes since a long time ago. At present, it is regarded as one of the most original Persian gardens and the most virgin sample of Persian *Bagh-e Takhts* still remaining in Iran.

Tree planting system in *Bagh-e Shahzadeh* follows the general principles ruling the Persian Garden making and because of its very precise nature can serve as an appropriate model for configuring other Persian Gardens.



Fig.3-138. The main axis of garden (19<sup>th</sup> century)  
(Base of *Bagh-e Shazadeh*)



Fig. 3-139. The main axis of garden  
(Base of *Bagh-e Shazadeh* -2009)



Fig. 3-140. Panoarama view to tree planting system of garden (Base of *Bagh-e Shazadeh* -2009)

*Bagh-e Shahzadeh* architecture dates back to the Qajars rule which was considered as a specific period in Persian architecture in which clear signs of the architectural styles of European countries can be seen. The frontispiece house of the garden is a unique building in *Iran* because of its mingling of Persian and French architecture. With the exception of restorations conducted in various periods of time, no body intervention has been made and such spaces have largely kept their original authenticity.



Fig.3-141. Sardarkhaneh (Outer facade)  
(Base of *Bagh-e Shazadeh* -2009)

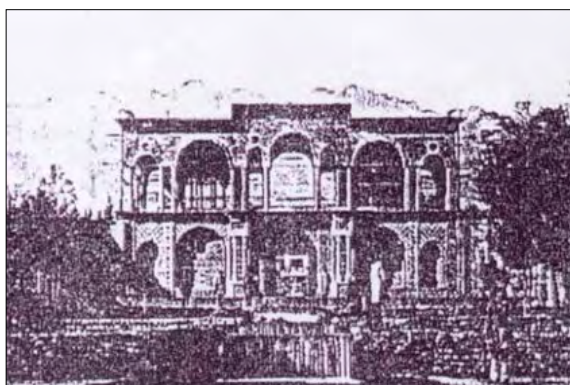


Fig. 3-142.Sardarkhaneh (Outer facade – 19<sup>h</sup>  
centhuey) (Base of *Bagh-e Shazadeh*)



Fig. 3-143. Balakhane (Pavilion)  
(Base of *Bagh-e Shazadeh* -2009)

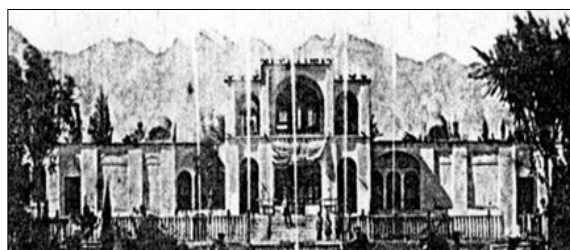


Fig. 3-144. Balakhane (Pavilion) (19<sup>h</sup>  
centhuey) (Base of *Bagh-e Shazadeh*)



Fig. 3-145. Sardarkhaneh (Lateral view)  
(Base of *Bagh-e Shazadeh*)(Right)

Fig. 3-146. Sardarkhaneh (Lateral view)  
(20<sup>th</sup> centhuey)(Base of *Bagh-e Shazadeh*)  
(Left)



Decorations of garden buildings include stuccos, tiling, sash windows, etc...They are regarded as original Iranian arts and presently are in good condition. Recent restorations upon them have been implemented according to their authenticity because of being done by traditional head masters.

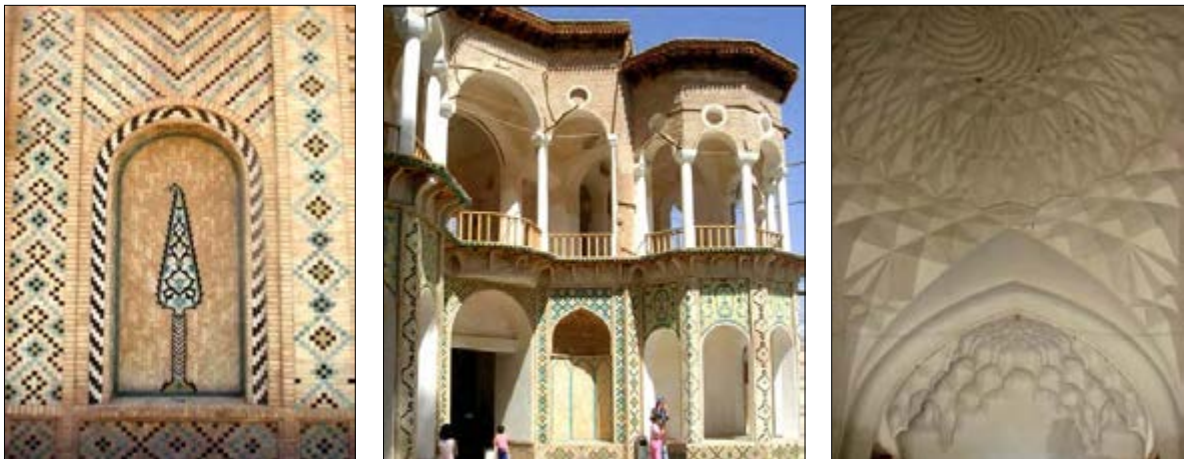


Fig .3-147. Sardarkhaneh (some of the ornaments & patterns)(Base of *Bagh-e Shazadeh* -2009)

Water circulation system in *Bagh-e Shahzadeh* has been made in a very creative manner. At present, it has completely kept its traditional form and functions quite optimally.



Fig. 3-148. Traditional water circulation system & pool (Base of *Bagh-e Shazadeh* -2009)

Garden plants follow the tree planting system specific to the garden. With respect to the changing nature of plants in time, it is evitable that changes occur in all garden trees. Since several years ago systematic conservation of garden plants has gone underway resulting in

the original state of them being largely maintained. Some problems encountered with a few trees have been solved or are being solved.



Fig. 3-149. Tree planning system in different seasons (Base of *Bagh-e Shazadeh* -2009)

Due to proper conservative operations, at the time being the fence enclosing the garden has kept its original condition and no cases of illegal occupation of garden grounds have been reported.



Fig .3-150. Western wall & tower of garden (Base of *Bagh-e Shazadeh* -2009)

### **Building Materials**

At present, various sections of the garden have kept the original color used in their elements and are in full coordination with the surrounding environment.



Fig.3-151. The yard of Khaneh-e Zaeemol dawoleh (after repairs)(Base of *Bagh-e Shazadeh* -2009)



Fig. 3-152.Sardarkhaneh (Base of *Bagh-e Shazadeh* -2009)

Original and traditional building materials of the garden consist of stones, sun dried bricks, gypsum, mud bricks, etc... and are presently being kept in an optimal condition.

Due to the fact that the garden was constructed in a single period of time, all of its building materials belong to that period which is the Qajars era. Of course, in later restorations a mixture of traditional building materials and indigenous knowledge has been used.

The configuration of building materials of the garden has also kept its original form without any major changes.

### **Technology and Workmanship**

Due to the availability of master workers familiar with traditional techniques of Persian architecture, they have been employed in all restoration phases in various parts of *Bagh-e Shahzadeh-e Mahan*.

Regarding the fact that at present most of Agricultural and gardening activities in Iran are traditional, many individuals working in these gardens, as gardeners are familiar with traditional techniques of Iranian gardening. Therefore no shortage of manpower in this regard

is felt. The technology used in waterworks system and jets of the garden have kept their original form.



Fig .3-153. Traditional irrigation system - eastern side of garden (Base of *Bagh-e Shazadeh* -2009)

### **Setting**

Original location and place of this garden has been maintained.



Fig.3-154. Aerial photo of *Bagh-e Shahzadeh* (Base of *Bagh-e Shazadeh* - 2009)

**Integrity**

Previously, *Bagh-e Shahzadeh* served as a residential and pleasure garden for exclusive use of its owners who were governors and influential men of Kerman. At present, the garden has a key role in providing the public a recreational space for local people. Therefore, it can be said that its present function is actually the continuance of its former function but in a public manner.



Fig. 3-155. The visitors in front of Sardarkhaneh  
(Base of *Bagh-e Shazadeh* - April 2009)

### 3.d. 7. *Bagh-e Dolat Abad*

#### Authenticity

#### Design

Architectural elements, water supply system, plants and garden borders of garden has been maintained its authenticity and integrity as follow:

*Andarooni* and *Birooni* as features of the traditional design of private spaces in Persian architecture has been maintained its authenticity as the main pavilion of this Persian garden. *Bagh-e Dolat Abad* design has largely maintained its authenticity due to preserving the formative elements of the garden.



Fig .3-156.*Bagh-e Dolat Abad* before construction of pool in the axis of garden,1970



Fig.3-157.Behesht aein palace (winter palace),1996



Fig.3-158. Behesht aein palace (winter palace), 2008



Fig. 3-159. Badgir building (summer palace), 2008



Fig .3-160. Tehrani building, 2008

Architectural Decorations are in original forms and all of features has been preserved and restored according to traditional forms.



Fig. 3-161. Decorations of the ceiling of wind tower building.( Karbandi)



Fig. 3-162. Tore decorations on the exterior wall of Winter palace.

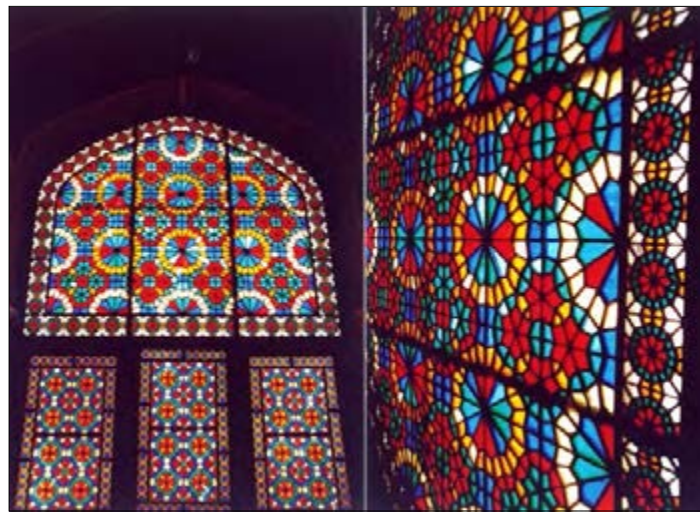


Fig.3-163. Orsi of Wind tower building

Design of water supply system as a part of the garden design has maintained its authenticity.

*Bagh-e Dolat Abad* has utilized two water supply systems during its lifetime. The first one is based on *Qanat* in combination with waterways, basins and fountains. Part of this system consisting of waterways, basins and fountains still remains intact in its original form. But the water path from *Qanat* has been recently obstructed. Although reopening it is under consideration within a new conservation plan, which will contribute to the strengthening of the authenticity of this part of the garden



Fig.3-164. Pool and Strams



Fig.3-165. Central pool of wind tower building



The second water supply system of *Bagh-e Dolat Abad* relies on a famous well known as *Chehelgaz* as well as a *Gavro* and water tank which make possible the exploitation and storage of well water. This system has also mostly regained its design authenticity and integrity in combination with waterways, basins, and jets thanks to several restorations conducted in recent decade. Therefore, from this aspect is able to present its authentic aspect quite sufficiently.



Fig.166.Gavro and Chehelgaz water well

According to local Persian garden design, the row of pine trees between summer and winter residencies as the most important aspects of *Bagh-e Dolat Abad* design has maintained its authenticity. Original old trees such as mulberry trees as well as pine trees, are at least seventy years old. Fig, pomegranate, and vine trees must be replaced periodically. Planting fructiferous trees can be considered yet another significant dimension of garden authenticity in Yazd region.



Fig. 3-167.Substituent trees



Fig. 3-168.Grapevine and pine trees

Enclosure of gardens has always been one of the characteristics of Persian Gardens, a tradition continued completely in *Bagh-e Dolat Abad* of Yazd. As a result, a mud brick wall as well as a tower encircles all around the garden that emphasize the garden authenticity.



Fig.169.Fortification and watch tower of garden

### **Building Materials**

The used materials which are mostly mud bricks and occasionally sun-dried bricks in *Bagh-e Dolat Abad* also reveal its authenticity. Somehow, building materials clearly indicate historical eras of the garden. *Bagh-e Dolat Abad* also has authenticity regarding the type of materials used, namely materials used in the garden during different periods have the same characteristics as its original materials with only minor occasional differences. Materials production in *Bagh-e Dolat Abad* also follows original production processes. For example, *Kahgel* production process here is exactly similar to traditional production processes so as not to generate anything non-authentic. Concerning the composition of materials in *Bagh-e Dolat Abad*, authenticity has been preserved due to the traditional usage of mud bricks and sun dried bricks or these two combined with mortar.



Fig. 3-170. East facade of Wind tower building



Fig. 3-171. Interior space of Talare ayeneh

### **Workmanship and Technology**

Regarding techniques used in the garden which are mostly *Qous-o-Chaft* with such materials like mud brick and gypsum and mud mortar, the complex enjoys authenticity. In addition, other techniques are also readily recognizable in *Bagh-e Dolat Abad* namely *Karbandi* coating of its summer residency.



Fig.3-172. Restoration of wind tower building's ceiling,1970



Fig.3-173. Restoration of Karbandi of Wind tower building,1970

As for the technology used in the building, the construction technology of *Bagh-e Dolat Abad* tall wind catcher is regarded as one of the original and rare aspects of the garden. The idea was to install a sort of cooling system behind the portico of summer residency in combination

with its inner basins. The system is still operating after three hundred years and despite frequent restorations.



Fig. 3-174. View of under the wind tower

Water flow system of the garden is another aspect of the technology used in it. As said before about design authenticity earlier, it has still kept its original characteristics and one of its outstanding functions is water basins and jets installed inside the summer residency.



Fig.3-175. pool and fountain in east facade of Wind tower building

### Setting

Although the garden was initially constructed outside the wall of the historical city of Yazd, urban developments during recent decades have led to *Bagh-e Dolat Abad* being engulfed by Yazd city fabric. Fortunately, due to reasons such as the endowment of large portions of agricultural lands dependent upon the garden, its location and setting have not been changed.



Fig.3- 176. Aerial Photo of *Bagh-e Dolat Abad*, 2008



Fig.3-177. Aerial Photo of *Bagh-e Dolat Abad*, 1956

### Integrity

*Bagh-e Dolat Abad* as one of the most important samples of the Persian garden in semi-desert climate in Iran could preserve its visual, structural and functional integrity during time. Nowadays due to urban development there are some intervention in traditional water system integrity which has been planed some alternations in management plan for revitalization of *Qanat* as traditional water system of complex.

### 3.d. 8. *Bagh-e Pahlavanpur*

#### Authenticity

#### Design

*Bagh-e Pahlavanpur* in *Mehriz* is a garden consisted of one pavilion and a frontispiece as well as other elements that on the whole follow the principles of Persian gardens. The garden has kept its authenticity due to the preservation of its constituent elements in the course of time and all restoration implementations has been done according to traditional forms and original design.



Fig.3-178. Way of water through the summer palace



Fig3-179. Way of water through the main axis of garden

Among major architectural elements of the garden are: the summer residency, a beautiful vestibule, its mill and its service spaces. From a design authenticity point of view, although these elements have been transformed slightly in the course of time but the main parameters of authenticity have been maintained in these spaces so that each space can introduce itself as an authentic space.



Fig.3-180. Summer palace



Fig.3-181. One of the buildings of Winter Residence, 2009



Fig. 3-182. Winter Residence



Fig.3-183. Decorations on the tower of the garden



Fig.3-184. Karbandi of ceiling of the summer palace



Fig. 3-185. Photo showing Pahlavanpur Qanat route as well as the basin of summer residency and water path amid trees



Fig .3-186. Photo showing plane trees, pomegranate and mulberry, Chennar...

One of the most important characteristic of the persian gardens is their trees. Regarding this aspect of authenticity, trees of *Bagh-e Pahlavanpur* are divided into two groups: the first are old plane trees and the second are trees which must be replaces periodically such as pomegranate trees as one of the original species of the geographical region of Yazd province. Planting fructiferous trees can be considered as yet another significant dimension of garden authenticity in Yazd region.

Another characteristic of Persian Gardens is their being fenced which is also seen in *Bagh-e Pahlavanpur* which has a mud brick wall together with remains of a tower left from its distant past.





Fig .3-187. Photo showing the wall and entrance tower of the garden

### **Building Materials**

Authenticity of materials in the Persian gardens is evaluated in five categories of color, dimensions, materials type, production process and composition. *Bagh-e Pahlavanpur* building materials are authentic in color which means that the dominant color in its exterior is *Kahgel* color (or buff yellow) following the general color of desert landscapes of Iran. This color has been kept to represent the real color of the building.

In the interior, the predominant color is gypsum color, which has been preserved despite several restorations. Additionally, newly added sections of the garden have this property in an agreeable degree. Size of materials used in the building of *Bagh-e Pahlavanpur* which are mostly mud bricks and occasionally sun dried bricks also reveal its authenticity. Somehow, building materials clearly indicate historical eras of the garden.



Fig .3-188. Usage of mud brick and Kahgel in the building

*Bagh-e Pahlavanpur* also has authenticity regarding the type of materials used namely materials used in the garden during different periods have the same characteristics as its original materials with only minor occasional differences.

Materials production in *Bagh-e Pahlavanpur* also follows traditional and original production processes. For example, *Kahgel* production process here is exactly similar to former production processes so as not to generate any incongruity.

Concerning the composition of materials, authenticity has been preserved due to the traditional usage of mud brick and sun dried brick or these two plus a mortar.

### **Workmanship and Technology**

Regarding techniques used in the garden, the complex enjoys authenticity. In addition, these techniques are readily recognizable in *Bagh-e Pahlavanpur* namely *Karbandi* coating in winter residency and in entrance vestibule of the garden.



Fig .3-189. Photo showing Karbandi of the main pavilion

As for the technology used in the building, the construction technology of *Bagh-e Pahlavanpur* wind catchers is regarded as one of the original aspects of the garden. The idea was to install a sort of cooling system behind the portico of summer residency which is still operating after hundreds of years, despite frequent restorations.



Fig .3-190. The wind catcher and the portico of summer residency

Water flow system of the garden is another aspect of the technology used in it. As said before in design authenticity earlier, it has still kept its original characteristics and one of its outstanding functions is to exploit waterpower in order to rotate mills installed in the upper and lower sections of the garden.



Fig .3-191. Way of water to the mill water

### Setting

Based on the evidence found around the garden, *Bagh-e Pahlavanpur* can be considered authentic regarding its surroundings. Because there is still a green volume around it thanks to its nearby gardens as well as the old alley leading to it.



Fig .3-192. Aerial photos of the garden in two separate years of 1957 and 2002

### Integrity

Despite undergoing several changes since the outset of its construction, *Bagh-e Pahlavanpur* has kept its original character as a garden except for a major functional shift from former private use to present public use.

As was shown earlier, *Bagh-e Pahlavanpur* has kept its authenticity regarding its main constituent elements. In addition, the integrity of connection among garden elements is noteworthy. Namely, each garden element not only has an individual role but also a role linked to other elements. In *Bagh-e Pahlavanpur* this feature can be seen in an agreeable degree. Therefore, it enjoys a kind of harmony among its elements which makes it possible to comprehend it as a unitary whole consisting of ingredients with individual characters. This is the real sense of integrity still observed in *Bagh-e Pahlavanpur*, a characteristic particularly seen in the connection between the pavilion and tree rows.

### 3.d. 9. *Bagh-e Akbariyeh*

#### Authenticity

#### Design

The majority of trees in the complex is original and dates back to the time of the construction of *Bagh-e Akbariyeh*. The complex has tall, sturdy pine trees on both sides of the main axis of the garden, highlighting the axis as well as the building to which it ends. Thus, principles of the Persian Garden landscaping have been fully followed in the complex. At a height lower than the upper green foliage of pine trees, a row of box trees is seen which have been planted in order to cover the bare trunks of pine trees and to contribute to the visual balance in the main axis of the garden. Pine and box trees are ever green plants, so they are intended to keep the garden green and vivacious throughout the year. Skyline of the garden seems higher than usual because of its tall trees symbolizing the glory of the Persian Garden. In fact, it can be said that visually the genuine design of the Persian garden has not been changed in *Bagh-e Akbariyeh* and it has kept its initial cardinal principles.

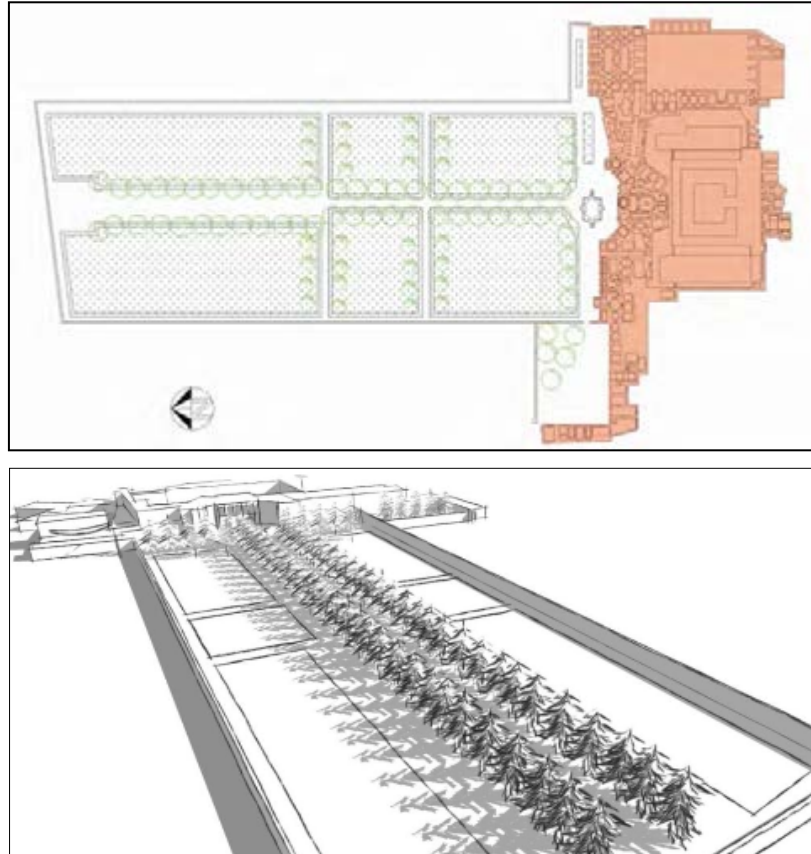


Fig .3-193. Maintaining garden landscape with respect to its initial main and secondary axes

Regarding plant species, it must be noted that gradually because of the aging of some species they have been substituted by similar species in accordance with original, indigenous Persian principles of gardening. Concerning its initial design and plan, the garden has not changed much. The only change has taken place as a result of recent garden expansion in which new parts have been added to it. But this has not harmed the general design of the garden because it has kept its initial authenticity plan as a Persian Garden.



Fig .3-194. the main axis of the garden and its plant species

Fortunately, the majority of buildings inside *Bagh-e Akbariyeh* complex have been conserved due to direct and effective supervision of ICHHTO. During restoration it has been attempted to safeguard building authenticity by preserving the style and form of structures as much as possible. Usage of indigenous materials in restorations and repairs of aged sections has been a fundamental step toward preserving the appearance of original materials. Approved regulations concerning the issue of restoration have limited such operations and have made them bound to minimal interventions and have cautioned against non-architectural

interventions. Appropriate operations have strengthened the undertaking to keep the genuine landscape intact.



Fig .3-195. The body of the ceremonial building and preservation of its initial façade



Fig.3-196 . Sample of body making and recent restorations regarding...

Garden expansion has occurred in such a way that architectural structures added also follow the original principles of the garden concerning plan and design.

In fact, by defining the original building as the garden axis and by respecting rules governing its design the added parts have been built. As a result, the general composition of the complex has kept its authenticity.

During restorations and expansions, architectural ornamentations of the monument have also been preserved. Actually, consequent sections have been decorated by taking into consideration the initial decorative forms. Most of the decorations existing in this section are concentrated in the so called central building whose façade has brick decorations such as *Khofteh-Rasteh*, rhombus, symmetrical brick paneling with recesses as well as an array of crescent shaped arches in the portico which are in harmony with rounded columns made of embossed brick work in the form of a four sided star. All of these decorations have remained intact without changing.

At inner spaces, mirror decorations have been repeated during expansions together with stuccoes, *Muqarnases*, orthodox works, etc...Ceiling vaults with wooden panels are also among items properly maintained.



Fig .3-197. Ceiling decorations of the central hall section



Fig .3-198 The mirrored cover of the ceiling of the Mirror Hall

The waterworks of the garden as well as other dependent hydraulic systems have been preserved as much as possible. In fact, urbanization and related changes resulting from it such as the transformation of traditional methods of water supplying made the traditional methods temporarily obsolete but in recent years increased attention paid to traditional methods and their superiority revived the old system. As a result, *Qanats* were dredged, revived and reused.



Architectures dependent on water elements were also preserved completely due to their importance, the only exception being the basin fronting the ceremonies building because it is an example not quite matching the whole complex.



Fig. 3-199. The ceremonies building and the basin ,2009

Due to the governmental function of *Akbariyeh* building, Presence of governmental- military structures inside it seems necessary. For this reason, setting up high walls as the surrounding fence of the garden as well as allocating some spaces for guards is justifiable.

Additionally, there existed a kind of hierarchical access to the main building via various sections and corridors which were protected by guards aiming at more security. At present, the perimeter wall of the garden has been preserved as thick piers with its design authenticity still remaining.

### **Building Materials**

Most of the building materials used in *Bagh-e Akbariyeh* architecture is earthen materials (mud bricks and sun dried bricks) as well as stones (rubble stones and cut stones) which were customarily used in regional architecture. Depending on location of usage, sand-gypsum,

earthen gypsum, sand-lime and mud mortar have been used as connectors. Garden fence was made of mud *Chineh* coated and protected by *Kahgel*. In parts near humid areas, mud bricks have been replaced by sun dried bricks or stones and water mortars such as lime-sand has been used. The plaster in this section is *Saruj* mortar.

At interior spaces, gypsum has been abundantly used as plaster and stucco decorations which in more important sections are accompanied by mirror works. In less significant spots *Simgel* or *Kahgel* mortars have been used as wall plasters. A mixture of gravel stones and lime mortar has been used in paved floors. Such points have also been taken into consideration in restoration activities.



Fig. 3-200. Restoration of floor paving with uniform materials



Fig. 3-201. Pier-laying of the inner space using uniform materials

### **Technology & Workmanship**

The architecture of the garden building which accommodates service, residential, governmental, etc... sections is in full interaction with the environment. As a result, the necessity to maintain its structure has been felt by garden residents in different periods of time. For this reason, the main structure has preserved its authenticity. Various geometrical compositions of vaults, arches and Persian *Chafds*<sup>74</sup> had significant role in setting up the building structure by indigenous materials following the architectural style of the period and

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<sup>74</sup> A piece of masonry which connect the sides of arch together in Persian architecture.

this shows the mastery of its builders. Such principles and methods were also respected in subsequent periods of time. The system of wind catchers, smoke stacks and their dependent architecture which has its origins in genuine Persian architecture are among strong points of the monument.



Fig. 3-202. Badgirs of the service section in the back Miansara

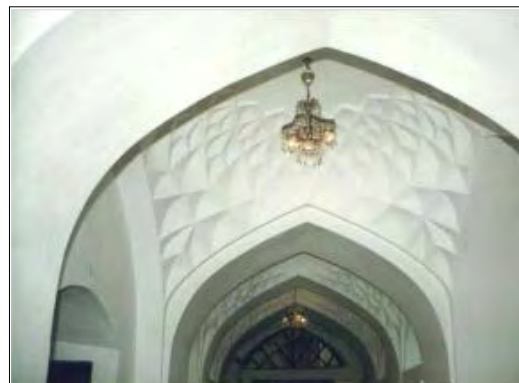


Fig. 3-203. View of Karbandi and Muqarnas works in the monument

Among other significant technologies used in the complex is its waterworks system which has been preserved until now although with slight changes that have not hurt the monument authenticity.

### **Setting**

Due to urbanization, *Bagh-e Akbariyeh* has become absorbed inside Birjand Town establishing a new connection with its surrounding environment but the effect of urbanization upon the garden is minimal. Additionally, the adjacent village has also kept its authenticity.

### **Integrity**

*Bagh-e Akbariyeh* is one of the outstanding samples of contemporary Persian gardens which shows the effects of historic elements of Persian garden together with interchange of new material and technology of gardening in Pahlavis era. The visual integrity of garden has preserved. All conservation and restoration intervention has been done according to original

forms and colors of complex and there are not any un harmonized interventions in it, the authentic function of this garden was been governmental, which nowadays this original function has preserved in form of local center of ICHHTO.

The structural integrity of this garden as a semi-desert Persian garden in all elements such as: water system, architectural features and enclosure has maintained its integrity.



Fig. 3-204. Anthropology museum of the garden

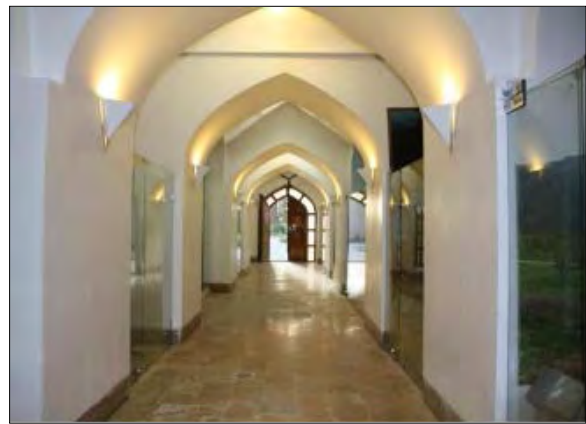


Fig. 3-205. Wild life museum

#### **4. State of Conservation and factors affecting the Property**

Considering that the nominated property includes different gardens in which conservation measures are being done, The National Base of Persian Garden was established to coordinate the provincial bases.

The National Base of Persian Garden is responsible for revising documentation of conservation reports coming from each provincial base and also supervision of conservation activities.

The conservation activities are done by following provincial bases:

- The Base Of Persian Garden, Fars:
  - *Ancient garden of Pasargadae*
  - *Bagh-e Eram, Shiraz*
- The Base Of Persian Garden, Isfahan:
  - *Bagh-e Chehel Sotun, Isfahan*
  - *Bagh-e Fin, Kashan*
- The Base of *Bagh-e Abas Abad*, Behshahr, Mazandaran
- The Base of *Bagh-e Shahzade*, Mahan, Kerman
- The Base Of Persian Garden, Yazd:
  - *Bagh-e Dolat Abad , Yazd*
  - *Bagh-e Pahlavanpur, Mehriz*
- The Base of *Bagh-e Akbariyeh*, Birjand

#### **4. a. Present state of conservation**

Considering the integrated policies of the National Base of Persian Garden as well as related conservation, educational and investigative purposes with respect to the introduction of the nine gardens, it has been tried to obtain necessary budget and facilities at local and national levels to fulfill these purposes. Such facilities will be presented to relevant provincial bases within the framework of programs approved by technical and steering committees of the base.

At present, conservation plans are underway in all of these gardens in order to prevent factors threatening outstanding values of the nine nominees. In addition, buffer and core zones regulations of each garden not only safeguard its local and national judicial system but also ward off potential threats in the future.

Due to constant and regular monitoring and conservation activities underway in gardens, their architectures consisted of pavilions and other structures are in an appropriate condition. In the archeological garden of *Abas-abad* in Behshahr Town, superficial damages resulting from humid climate have occurred which are under control via regular relevant monitoring and conservation operations.

Among important strategies of the management plan are research, documentation and issuing ID cards for plants which is fortunately during its final stages in all nine gardens.

When plants have been harmed by natural factors such as frost, various tests and probes have been conducted in this regard relying on expert consultation.

In most gardens, there exists a traditional water supplying system such as *Qanat* which has been conserved in all nine gardens. But regarding *Qanats* and waterworks suffering problems, operations for their conservation and revitalization are underway.

In ancient gardens of *Eram* and *Dolat-Abad* in which urbanization has damaged old water resources, the water needed for garden is procured from wells. But internal water supply facilities in these gardens have kept their original form. And in ancient gardens of *Abas Abad* and *Pasargadae*, investigation and interpretation of water circulation system is still going on.

Regarding tourism pressure in gardens which are major destinations for tourists, such as *Eram*, *Fin*, *Chehel Sotun*, *Dolat -Abad* and *Pasargadae* gardens, management policies have been devised with due respect for controlling the effects of tourism pressure.

On the other hand, in less well known gardens, education and introduction have been given priority in their management plans.

Generally, because all gardens are under technical, legal and specialized support, previous damages are being resolved and potential threats are being prevented in them.

### **Statement of Protective measures done in the gardens:**

#### ***The Ancient Garden of Pasargadae***

##### **The First Restoration Period (The Achaemenids Era):**

Actually, the first restoration operations in *Pasargadae* and Persepolis platform started during the rule of The Achaemenids. At every corner of the complex, delicate and exact samples of repairs and restorations are at hand undertaken simultaneously with the construction and exploitation of buildings. Generally, restoration activities of the period are as follows:

- 1- Usage of the so-called patching technique at different sections of palace complex. In other words, when a vein, a hole or a groove was seen in a stone or if part of it was in a way decayed, all around the spot at issue was emptied cautiously, then a piece of the same kind of stone was inserted exactly in the place and was seamed up so that it could be barely distinguished. Today, after 25 centuries some patches in the exclusive palace become visible only when wetted by water.
- 2- Prevention of the progress of large grooves was achieved by using iron braces in a mortar of lead. For example, dove-tailed braces were used to tie stones together.
- 3- Regarding small grooves, a wide-tipped chisel or stone-cutting hammer was used around them in order to stop their progress.
- 4- Restoration of threshold and stairways stones eroded due to heavy usage
- 5- Restoration of mud-brick structures damaged by rainwater and in dire need of constant restoration. (just like today)
- 6- Restoring wooden parts of the building and replacing new wooden parts.
- 7- Additionally, according to excavators' researches as well as Brit Tilia's writings, wall plasters and buildings flooring should have been repaired occasionally. As an example, four layers of repeated plastering and flooring has been documented for one spot inside the treasury house of Persepolis. On the whole, it can be concluded that during the

Achaemenids Empire a group of workers were employed regularly to restore *Pasargadae* and Persepolis structures. (Archives of Research Foundation of *Parse-Pasargadae*)



Fig.4-1.Repairs in the Achaemenids Era (Archives of Research Foundation of Parse-Pasargadae)

#### **The Second Restoration Period (The Pahlavis Era: Ali Sami):**

From 1949 until 1964, the head of Persepolis Scientific Institute, Ali Sami who worked under the auspices of Iranian General Office of Archeology conducted excavations and investigations in Pasargadae and Persepolis. In the following, some of his restoration activities done in Pasargadae Complex are mentioned:

- 1-Reassembly of broken parts of reliefs at gates of Audience Hall and Private Palaces using cement mortar
- 2-Filling hollow parts of braces in buildings specially the mausoleum using cement mortar
- 3-Restoration of collapsed sections as well as filling stone grooves by using cement mortar
- 4-Setting up a wings over reliefs in order to conserve them against adverse weather conditions



Fig.4-2.Pattern of the left side pier of the doorway threshold standing southeast of the Audience Hall Palace before and after restorations of Ali Sami. (Archives of Research Foundation of Parse-Pasargadae)



**The Third Restoration Period (The Pahlavis Era: Ismeo):**

In 1964, restoration and conservation operations conducted in Persepolis, Naghsh-e-Rostam and *Pasargadae* as well as other historical sites of Fars Province were undertaken by the Italian Institute of the Near and Far East (Ismeo) to be performed by Italian experts with the help of Iranian General Office of Archeology.

Operations started under the supervision of Joseppe Tilia and his wife Ann Brit after preliminary studies. In fact, this period can be considered as the beginning of first series of scientific restorations in *Pasargadae* Historical Complex as well as other historical sites of Fars Province. Restoration techniques and methods used by the Italian group are as follows:

- 1- Usage of iron or bronze bars with different sizes for broken or separated parts in order to conjoin them in which: Firstly, stones were pierced with special drills, their long cracks and grooves were obstructed by cement and stone shreds exactly similar to original stones being repaired, Afterwards, liquid cement was injected into the holes and bars were put inside them covered in a cement bed. When there was high load pressure, metal bars were thrust through them all the way and their ends were secured by bolts and nuts. But when load pressure was limited, the metal bars were thrust only partially.
- 2- Small broken pieces with exact jagged surfaces were glued together which sometimes was secured by metal bars too.
- 3- To fill wide spread stone cracks and grooves, liquid cement was injected. Nevertheless, because cement must not be visible on the surface, at first two centimeters of the outward position was filled with sand and stone shreds parallel to the stone type so that only a small orifice remained for cement injection.
- 4- Smaller holes were filled by colorless glue mixed with the same stone powder.
- 5- In order to keep the collapsed parts of buildings standing, the lost stones were replaced by new stones. The procedure was as follows: After preliminary investigations and collecting broken pieces of the section at issue, because it was necessary to erect the collapsed part by inserting genuine stones, stones were extracted from original quarries with the same type and color as of buildings stones. Then based on comparative studies as well as proper documentations, stones were cut at the same size and form but to distinguish between the old and the new, diagonal hatchings were drawn on them by chisels to show that they have been restored.

Moreover, among Ismeo restoration activities specifically conducted in *Pasargadae* Historical Complex, the following ones are noteworthy:

-*Cambyses* tomb repairs

-Private Palace Repairs: In this palace, only pieces remaining from two columns were still at their original position. Remains of other columns were scattered all over the stone pavement and some column stubs needed repairing. In addition, many white colored stone pavements of the floor had been taken off or transferred to other spots. Operations conducted in this palace include the following cases:

- 1- After a survey of the fallen parts of columns and designation of their original position in the central hall of the palace, necessary operations were done in order to install them upon their torus. At sections where the torus or footstall was missing, new ones made of new stones were installed.
- 2- One of the repaired base stones of piers along the entrance was connected to three other pieces of stone which were put at their original place.
- 3- In south-eastern portico of the palace, six pieces of flooring stones of the portico were placed at their original positions and other stones were repaired using the afore-mentioned methods.



Fig.4-3.Private Palace: before and after restoration by Ismeo (Archives of Research Foundation of Parse-Pasargadae)

### **Repairs in the Audience Hall Palace**

Ten pieces of the stone-pavement, nine pieces of door stand and seventeen column pieces were transferred from Cyrus tomb to near the Audience Hall Palace. Here, two column pieces forming the lower sections of column bars were installed upon stone bases of the main hall.

### Gate Palace Repairs

In this building, repair works on a parapet engraved with winged man images was done. At the beginning, cements covering the piers were taken off, then the pier was lifted and new stone replaced the missing piece of the base, connecting it to the remaining part. Finally, it was placed upon a foundation of cement concrete.

The Fourth Restoration Period (The Islamic Republic Era, Technical Bureau of Marvdasht Cultural Heritage Organization, Persepolis):

1. Installment of protective covers over the winged-man's image.
2. Covering all around column bases, doorways of the audience hall palace and the Gate Palace with bricks and cement mortar and filling them by quicksand. Coating with *Kahgel* plaster.
3. Piercing and bracing separated pieces of stones making up column slips by steel bars and bolts and nuts at both ends.
4. Restoring and securing the winged-man relief by nuts and bolts
5. Making a protective cover over engraved gates of the Audience Hall and Private Palaces.
6. Detaching column slips of the Audience Hall Palace, Restoring the torus and reassembly of columns.
7. Maintenance of the *Kahgel* covers of column bases of the Audience Hall Palace and the Gate Palace
8. Setting up sign posts for *Pasargadae* Historical Complex (Archives of Research Foundation of *Parse-Pasargadae*)



Fig.4-4.Kahgel coating of column bases (Archives of Research Foundation of Parse-Pasargadae)



Fig.4-5.Coating upon the winged-man image

The Fifth Period of Operative Restoration Workshops in *Pasargadae* Historical Complex, Research Center of *Pasargadae* Historical Complex (The Islamic Republic Era, Research Center of *Pasargadae* Historical Complex, *Parse-Pasargadae* Research Foundation):

1. Establishing *Pasargadae* Technical Complex (*Pasargadae* research Center)
2. General pathological investigations in the entire historical complex, beginning of survey and documentation of the Gate Palace
3. Clearing waterways and their vicinity from weeds
4. Precise clearing of the Gate Palace floor to get rid of wild plants in order to prevent further stone damage
5. Filling stone fissures and seams of floors with quicksand after their clearing to prevent plants re-growth as well as to inhibit water retention and freeze amid stone grooves and seams
6. Erecting Plexiglas sign boards to introduce buildings of *Pasargadae* Historical Complex (only English signs)
7. Continuance of mapping and documenting damages suffered by the Gate Palace (pathological studies)
8. Clearing areas around palaces and buildings from weeds
9. Designing and administrating a visitors' path inside the complex of structures and marking it by ropes and bars
10. Conducting research operations on the formation process of Maadar-e-Soleyman village and developments occurring in the historical complex in order to compile a Historical Calendar of *Pasargadae*
11. Identification and documentation of damages done to the winged-man's wall (pathological studies) as well as mapping and drawing the aqueducts of the royal garden. (Archives of Research Foundation of *Parse-Pasargadae*)

Restorations Conducted in Private Palace and *Bagh-e Shahi* (Royal Garden) in Years 2003 and 2007:

According to existing documents of the Study, Research and Restoration Center of *Pasargadae* World Heritage Site, restorations conducted in the Private Palace as well as fountains of *Bagh-e Shahi* comprise two restoration periods within years 2003 and 2007 under the supervision of Mr. *Hassan* Raahsaz and his restoration team. Most of the operations

in 2003 consisted of merely finding fractions and patching stone pieces of one column torus and replacing one column slip.

But in 2007, restoration activities concentrated on restoring fountains of *Bagh-e Shahi* which were partially restored. In the following, a brief report on these operations is presented:

### **Operation Details:**

After documenting the present condition of stones making up the fountain on the eastern and southeastern sides of *Pasargadae* Private Palace, restoration activities in this part got underway by:

Setting up load bearing and portable protective scaffolds, equipping this section with a winch, laying down lumbers to create a suitable bed of 3 by 6 square meters, identifying and fraction finding of all broken pieces as well as organizing and arranging the eastern section of the Private Palace fountain

After excavations, cleaning both sides of stones around the fountain (with a width of 40cm and a length of 110m) took place respecting conservation principles. At this stage, countless numbers of broken pieces of fountains came to surface and were collected. Digging activities were followed by:

liberating blocks in order to level fountain floors, strengthening and patching broken pieces, removing and transferring fountain pieces by hand winch, lever force and car hoist, pulling out plant roots particularly sweet-roots which grow beneath fountain beds causing their breakage and dislocation, collecting and preventing the re-growth of such roots, destroying termite nests in lower surfaces, the main floor, beneath and around fountains and other spots (if required) by a 2-4% dose of Turdon poison, filling several fountain blocks with totally decayed stone bases by lime concrete as well as leveling and bedding them.

All stone pieces of fountains were cleaned and strengthened by lime emulsion and grout after being rubbed by a plastic brush and being rinsed with water. Fractions which did not need patching or dislocating were washed in situ, strengthened and conjoined. Moreover, a few intact or broken pieces of the floor or body of fountains which required transferring in order to being cleaned, strengthened and patched were removed. (Before their removal, these pieces were coded and numbered in order to make possible the identification of stones during installment)

After washing broken pieces and their fraction finding via identifying the original position of pieces as well as pairing them, patching took place. Then stone blocks of the fountain were placed at their original position by hand winch and lever. Afterwards, leveling and roping was done with due attention to local gradient. Final activities underway were as follows: tinkering of stone pieces using stone glue, pointing of cracks and veins with sand and lime mortar, rubbing a layer of clay soil grout over them by a brush in order to make pointing works and fountain stones of the same color and finally documentation of the entire repair process. (Archives of Research Foundation of *Parse-Pasargadae*)



Fig.4-6. Restoration phases of Bagh-e Shahi fountains: cleansing and brushing pieces, patching, steel inserting and grouting (Archives of Research Foundation of *Parse-Pasargadae*)

### **Restoration Activities in 2009**

- Continuing and completing restoration and conservation plans
- Removing the asphalt of the old motorway and correcting the visitors' path
- Sandblasting and roping of the visitors' path
- Designing and administrating the illumination of palaces
- Clearing palace floors and fountains routes from any weeds

### ***Bagh-e Eram***

The present conservation activities:

Now, no special major intervention is underway because of the suitable situation of the buildings and plants, ICHHTO is in charge of protective actions of the garden.

#### **Past conservation activities:**

The project of preservation of *Bagh-e Eram* was started by the Research deputy of Shiraz University since 2000. It continued until 2005. A summary of the actions done during these years which contain studies, programming, planning and supervising are as following:

- Preparing the plan of *Bagh-e-Eram* reorganization.
- Supervising and continuing the project preservation of the *Bagh-e-Eram*.
- Assessment and research that led in discovering bath, kitchen and the second building
- Providing maps for the present conditions of the garden
- Providing the plan of irrigating Rose garden and the primary plan presenting it to the garden council<sup>1</sup>
- Providing pathological research and Restoring the façade of the north western entry
- Performing the pavement around the garden
- Conservation activities of the main pavilion<sup>2</sup>
- Restoring and dying the gable roof of the garden buildings
- Making ventilation canals around the building
- Supervising on the internal performance of the *sharbat-khaneh*
- Determining the location of and supervising on designing the internal architecture of management building
- Performing all operations of landscaping containing passages and the basin
- Supervising on Restoring the facade of northeastern entry of the garden

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<sup>1</sup> The council of Bagh-e-Eram comprised of the expert & selected members of Research Center of Shiraz University & a representative of Cultural Heritage that supervise on all protective, developmental and Restoring actions of the garden.

<sup>2</sup> Developmental & Restoring actions of the garden are charged with Shiraz University & the garden council member supervises on the performance of the actions by the representative of Cultural Heritage.

- Designing the sitting room in the garden known as *Bonegah*
- Determining the location of and designing parking for the garden
- Maintaining seriously to avoid constructing high buildings around the garden led in emanating sanction laws by Cultural Heritage Organization
- Designing, making and setting up the presentation boards of the facade entry
- Making pavement around the internal (*Andarooni*) building water-scene
- External lightening of the main building
- Making ventilation canals in the external part of western and eastern sectors
- Establishing the basement foundation by mortar-cement
- Carpeting the portico floor and the room behind it
- Plaster molding in the library
- Restoring gable roof
- Insulating the ceiling of the western part (library)
- Removing annexation of the western facade of the main building on the point of the internal (*Andarooni*) yard
- Unblocking the watercourse in the first floor of the building [which had been blocked].
- Restoring the external sloping and pavement near the building inside the internal (*Andarooni*) yard and outside the main building
- Restoring water courses
- Restoring internal pavement of the building
- Restoring internal wall of the building and removing annexation layers
- Reforming doors and windows and Restoring the destroyed ones and broken glasses
- Restoring destroyed ornaments



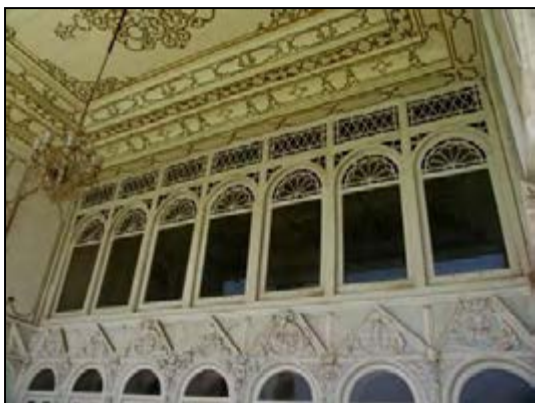


Fig.4-7. Windows of the main pavilion after restoration (S. Malekpur)



Fig.4-8. Windows of the main pavilion after restoration (S. Malekpur)

Conservation activities in internal (*Andarooni*) pavilion:

To change the function of the internal (*Andarooni*) building of *Bagh-e-Eram* and coordinating the internal and external space of it with its future function, it is mandatory to repair the building from the beginning.

- Restoring the external facade of the building
- Opening two closed porticoes of the western part of internal (*Andarooni*) building
- Restoring the pavement and external sloping of the building inside the internal (*Andarooni*) yard and outside the internal (*Andarooni*) building



Fig.4-9.restoring the pavement (S. Malekpur)

- Restoring the ceiling insulating
- Relocating the western wall of the internal (*Andarooni*) building into the right angle
- Restoring the internal pavement of the building

- Restoring the internal body of the building and removing annexation layers
- Restoring the doors and windows (changing the aluminum doors and windows with the wooden ones)

**Restoring *Bagh-e-Eram's Hammam (Bath):***

- Removing threatening annexations to the building
- Turning back the plot to the original plan
- Conservation of basin and tiles around it
- Restoring *Sarbineh* floor and protecting its floor stones
- Conservation of anti-chambers of eastern and southern parts
- Conservation of balconies by suitable tiles
- Removing mosaic margin from the walls
- Keeping the safer parts of the paintings of *Sarbineh* walls in southern part and removing colors on the walls in other parts of the building.
- Opening the main entry of the bath
- Removing chalk and mosaic annexation inside the door



Fig.4-10. Restoring hamam's pond (The Base of Persian Garden, Fars)



Fig.4-11. Decorations on hamam's ceiling after conservation and restoration (The Base of Persian Garden, Fars)

- Archeological research
- Pavement of hot bathhouse floor by stones similar to the stones of the *Sarbine* floor
- Research to make decision about former facade of the *Hammam*

**Conservation of northern building:**

- Removing eroded bricks of the western facade and Restoring northern, southern and eastern facades
- Restoring the gable roof
- Restoring the waterways and designing their ways toward small garden and external watercourse
- Removing the cables on the facade
- Restoring the pavement inside the rooms and yards
- Restoring the internal walls of the rooms
- Restoring doors and windows
- Restoring the small garden in the yard with respect to: herbal context, leveling,, and the way of irrigating the small garden
- Restoring north-eastern facade

***Bagh-e Chehel Sotun***

A report of restoring action stages of *Chehel Sotun* palace from 1975- 2006

**1975**

- Surveying, taking photographs from architectural details in south portico
- Study and research about north and south balcony and the balustrade in southern section
- Stabilizing the foundation of the pillars of southern portico
- Reinforcing the west balcony pillar of the north portico
- Performing Brick pavement of two rooms in the northern part in north portico
- Excavating in the west part in order to research on the west basin of the palace
- Cleaning some part of the fresco painting of the first *Shah Abbas* era (located in the southwestern hall)
- Cleaning some part of the fresco painting of the second *Shah Abbas* (located in the northwestern hall)
- Reinforcing the Foundation of the wall bases
- Restoring the spouts of marble basin of the hall

**1976**

- Reinforcing and isolating plinth stones around the garden
- Making wooden nets and doors in northern frontage
- Restoring the wall painting of the small rooms in the upper floor
- Restoring the wall painting of the southern portico
- Lightening the roof of the small rooms in the floor
- Reinforcing the woods of the central pillar in the south portico on the metallurgy pillars
- Reinforcing the foundation of the west balcony in the northern portico
- Restoring the historical inscription in *Chehel Sotun* hall
- Finishing the reinforcement of the floor of the central hall
- Restoring and removing the stains of the whole ceiling of the palace by plaster of *Kahgel* (clay and straw)
- Cleaning all the paintings in the central hall

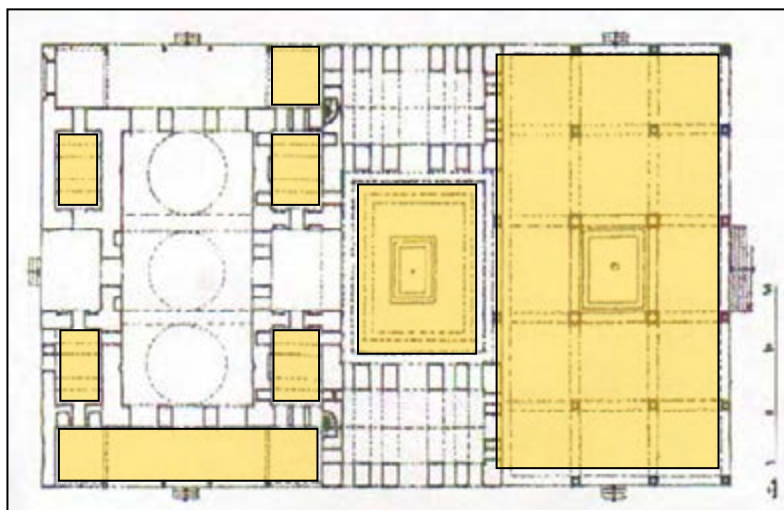


Fig.4-12.Conservation activities in 1976 (The Base of Persian Garden, Fars)

**1977**

- Restoring the fireplace
- restoring the pavement and curves of two fire places in the great hall
- Covering the floor and internal pavement of the southwestern room
- Restoring the eastern balcony in the northern portico

- Surveying the ceiling of the hall
- Conservation activities in Safavids wall in the southern part of the palace

**1978**

- Restoration of the decoration surface, and latticed windows (*Orsi*) in the southeastern rooms
- Removing the stains of the paintings in the southeastern room
- Restoring the portico completely regarding the present documents in south western balcony
- Consolidating the plinth of the western wall, repairing the cracked bricks of the frontage, removing the brick stairs, and Restoring the plinth stones behind them in the western part of the palace
- Restoration activities in the south part of the palace

**1979, the first sixth month**

- Consolidating the plinth stones around the palace in southern and eastern parts
- Finishing the restoration of the balcony located in the western part of the southern wall of the palace by old beams according to the maps based on the present documents.
- Restoring the copper watercourses in the roof of the ceiling
- Cleaning the dust gathered on the paintings
- Cleaning the painting in the north western side of the very portico
- Restoration operation of the western pillar of the very portico
- Restoration the paintings of the same portico
- Restoration actions in the northern portico of the palace
- Installing scaffolding in the eastern portico
- Cleaning the fresco paintings
- Cleaning the knotted, painted ceiling of the portico

**1979, the second sixth month**

- Consolidating the stone plinth around the palace
- Conservation activities in the portico
- Restoration of the wooden latticed windows (*orsi*) considering authentic workmanship

- Restoration of the ceiling of the hall
- Reinforcing the wooden pillar of the south portico
- Conservation activities on the fresco paintings of the north portico
- Restoring the pillars in the south pillar of the palace
- Cleaning the dust on the fresco paintings

**1996**

- Restoring the brick façade according to design authenticity
- Restoring stone pavement of the great hall
- Making canals for utilities around the rooms
- Reinforcing the frame work and foundation of the floors of the rooms and main hall
- Reinforcing the western wall of *Chehel Sotun*
- Restoration of three eastern doors in the Teimoorids hall

**1997, 1998**

- Performing the stone pavement of the north entrance
- Reinforcing the foundation of the floors in the north entrance

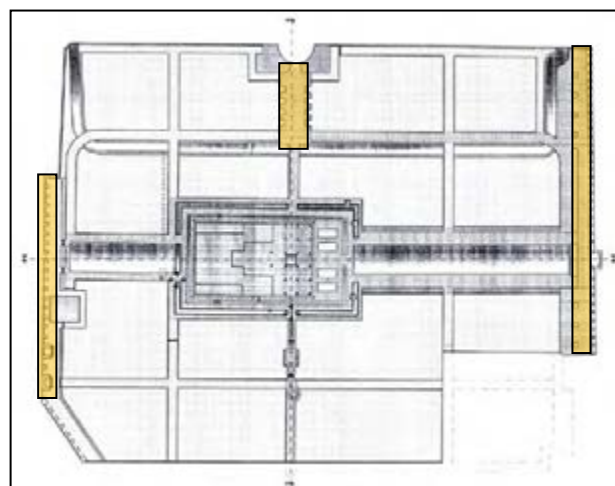


Fig.4-13. Conservation activities in 1997, 1998 (The Base of Persian Garden, Fars)

**1998**

- Cleaning the large fresco paintings
- Restoration of the painting decorations of one of the entrances of the south hall
- Installing air conditioning system in the central hall

**1999**

- Removing the annexed layer from the main painting of Safavids era
- Removing the glue and oil layer from the surface of the fresco paintings after research

**2000**

- Conservation activities on the fresco painting
- Isolating the ceiling of *Chehel Sotun* portico by plaster of *Kahgel* (clay and straw)
- Restoring some part of wooden decoration of the portico ceiling
- Restoring the entrance door of *Chehel Sotun*

**2001**

- Restoration of the northwestern building beside the entrance
- Restoration of the entrance façade in eastern part
- Restoration of the brick nets coordinated with the other parts of the façade frontage.
- Restoration of the arches
- Continuing the restoration of three fresco paintings in the main hall of *Chehel Sotun*

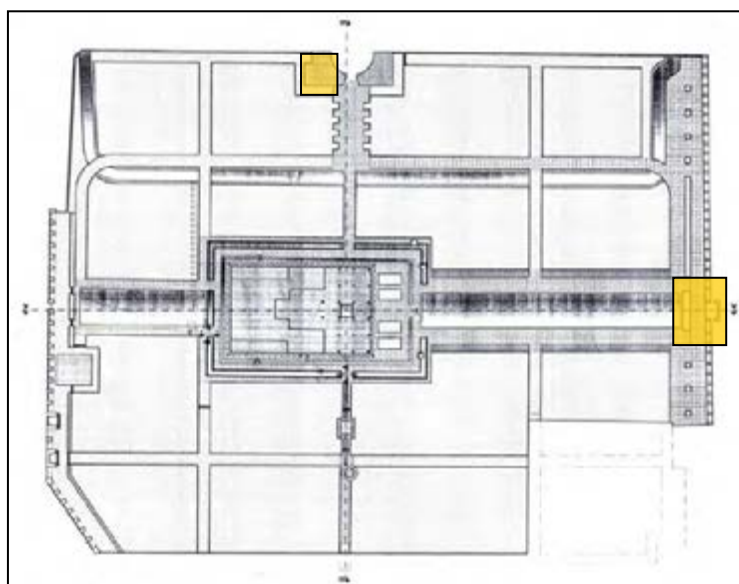


Fig.4-14.Conservation activities in 2001 (The Base of Persian Garden, Fars)

**2002**

- Plastering the basin
- Restoration of the stone pavement of the sides of the basin
- Restoration of the painting decorations of the main pavilion walls in the western part
- Cleaning on the paintings
- Reinforcing and performing needed conservation activities on the fresco paintings
- Restoration of the ceiling of pillar portico of *Chehel Sotun* pavilion

**2003**

- Restoration of the roofs of the south portico
- Restoration of the hall roof of the eastern part
- Restoration of the roofs of the central hall containing
- Restoration of the stone pavement of *Chaykhaneh* (tea house) entrance in northern part of the garden
- Restoring the basin

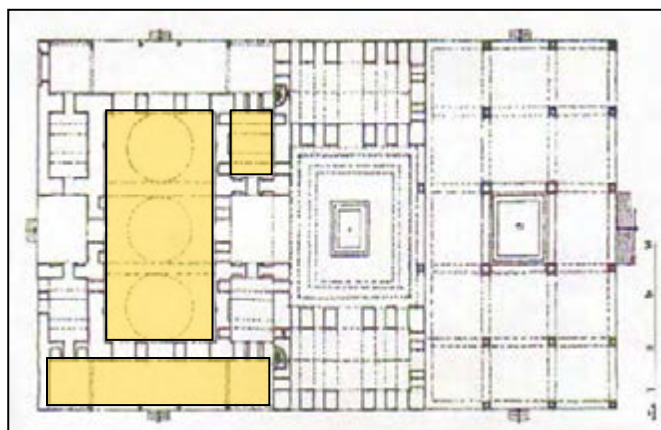


Fig.4-15. Conservation activities in 2003 (The Base of Persian Garden, Fars)

**2005**

- Reinforcement and Restoration of the decorations in the eastern part of the southern hall, southern hall, the south hall and the western wall of the southern hall



- Reinforcement the decorations in northern, southern and western porticoes and Restoring the frescos of the north portico of the palace

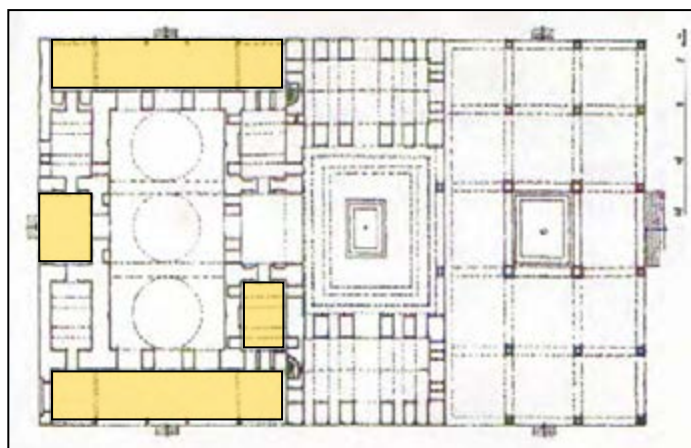


Fig.4-16.Conservation activities in 2005 (The Base of Persian Garden, Fars)

**2006**

- Restoring the fresco paintings of the south portico
- Restoring the decorations of the main hall roof of the palace

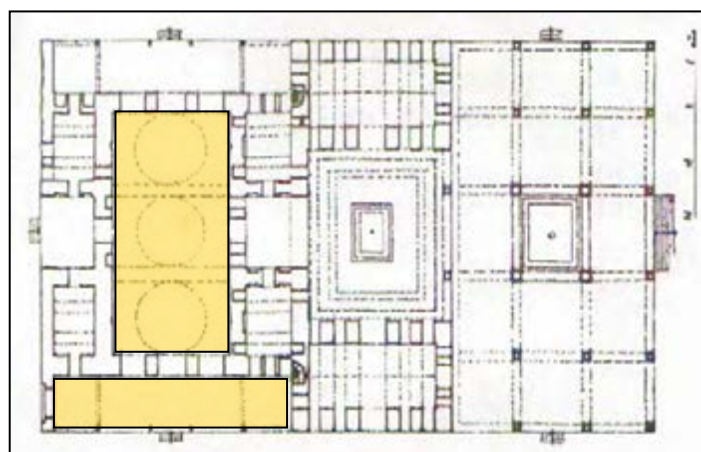


Fig.4-17.Conservation activities in 2006 (The Base of Persian Garden, Fars)

***Bagh-e Fin***

Present conservation activities:



Fig.4-18.Pavement before and after restoration (The Base of Persian Garden, Isfahan)

- Replacing small garden's soil, debris loading and carrying it out of the garden
- Restoring the walls of the garden



Fig.4-19.Restoring of the walls of the garden (The Base of Persian Garden, Isfahan)

- Restoring the *Orsi* (latticed) window of the facade



Fig.4-20.Restoring the Orsi window (The Base of Persian Garden, Isfahan)

- Installing the door & security guards of the entry of the end of the museum (parking)
- Installing security cameras in different parts of the garden

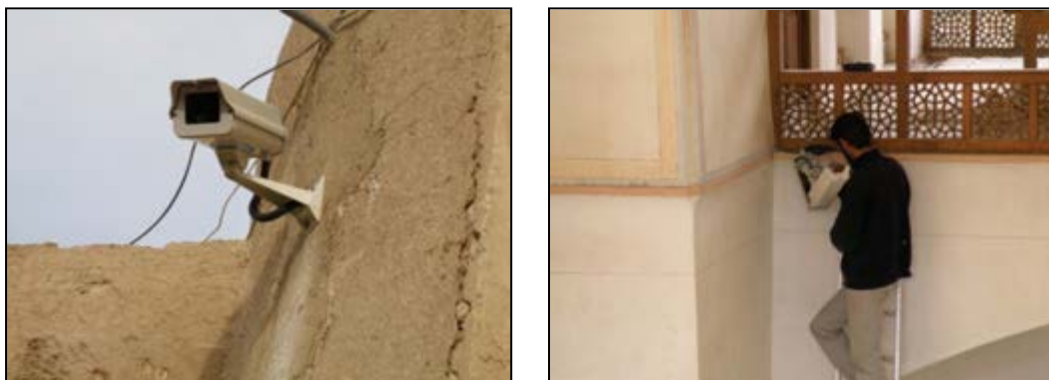


Fig.4-21. Security cameras in *Bagh-e Fin* . (The Base of Persian Garden, Isfahan)

Restoring, reinforcing, cleaning actions during 1376-1388 in different parts of *Bagh-e Fin* have been collected here. A brief report of these actions is as following:

### **1998-1999**

- Installing wooden doors and windows according to their original form (*Orsi* windows) and windows (wooden lattice) of Safavids *Shahneshin* room and *Panjdari* near *howz joosh*
- Restoring and installing wooden fence for some parts of the garden
- Organizing rooms and frontage of southern part of *Panjdari*
- Consolidation and removing the cracks of the body and roofs of different parts
- Conservation and organizing parts of large and small *Hammam* (baths)
- Conservation of floor and stone pavements and partitions of small gardens
- Conservation of Qajaris *Shotor- Glalu*
- Conservation and insulating the roof of the ceiling
- Conservation the roof and wall paintings of Qajaris *Shotor-Qalu*
- Conserving the brick latticed of entry of *Hashti* and other parts
- Cleaning pools and streams and flower beds
- Conservation of plaster molding roof of Qajaris *Shotor- Galu*
- Excavating the sewage well of the guest house
- Providing visitor facilities in *Chaykhaneh* (traditional teahouse)

**1999-2000**

- Conservation of the floor and body of Qajaris *Shotor- Galu* and starting and maintaining the repainting operation of paintings and plaster moldings
- Conservation of the floor of Qajaris *Shotor-Galu* to avoid dampness of the water canal of the building basin
- Restoring the roof and performing *Kahgel* (clay and straw) plaster of the roof of the whole building

**2000-2001**

- Installing a guard station in the upper part of the stairs in front of the museum basement
- Installing gas pipes work for *Bagh-e Fin* museum

**2001-2002**

- Finishing restoration operation in Qajaris *Shotor -Galu* roofs
- Isolating the roof and performing clay and straw plaster
- Maintaining the repainting operation and reviving the decoration of Qajaris *Shotor-Galu* roof plus dying the roof and chalk frieze around the building

**2002-2003**

- Preparing a room to keep electrical generator
- Maintaining the restoration of Qajaris *Shotor- Galu* paintings



Fig.4-22. Maintaining the Restoring of Qajaris Shotor- Galoo paintings . (The Base of Persian Garden, Isfahan)



Fig.4-23. The shallow well that serves drainage system. (The Base of Persian Garden, Isfahan)

#### **2003-2004**

- Finishing performing the plinths of the garden with stones
- Starting the operation of changing the floors of the garden roads
- Making canals for preventing damp in the walls behind the garden in that part.
- Restoration of the basin of *Sarbineh* of Qajaris bath
- Restoration of sewage between *Sarbineh* and Qajaris bath
- Starting tiling of plinth of royal baths (some parts of the big basin)
- Tiling the plinths of chapel.

#### **2004-2005**

- Performing the electrical and mechanical installations in the garden
- Restoring of internal partitions of the library
- Restoring the floor inside *Hamman*
- Restoring of *Eslimi* decoration of the ceiling of the *Hamman*
- Maintaining the operation of plasterwork around the large basin in Qajaris *Hamman*
- Restoring lime ornaments

**2005-2006**

- Restoring the roof and walls of the *Hammam* to perform decoration and whitening it
- Starting conservation of the operations of excavated parts and *Badgir* inside Qajaris *shotor- Galu*
- Restoring the lime decorations of some parts of the decorations of ceiling and bodies of *Hammam*

**2006-2007**

- Performing the conservation activities in some parts of stone pavements of the garden
- Restoring roof and wall paintings of facade of *Bagh-e Fatan* entry
- Restoring Brick façade on supporting pillars and behind the portico of *Khalvat-e Karimkhani* yard
- Restoring brickworks of external walls of different parts in guesthouse of *Bagh-e Fin* (*Khalvat-e Karimkhani*)
- Restoring the floor around the *Bagh's* museum according authentic brickwork style
- Restoring roof edges and plastering the roof of covered roofs of *Khalvat-e Karimkhani*
- Restoring the external frontage and stone pavements of some part of the old stable of *Bagh-e Fin* and installing the entrance door
- Restoring the plastering and whitening the ceiling of *Hashti* of guesthouse entrance of the garden
- Installing the central electricity of the garden and operating digging canals of mechanical and electrical installations around the garden museum
- Performing researches for irrigating system of the garden
- Research about the historic irrigating system based on especial mechanized robot movements and computer and recognizing the damages in the system
- Organizing a modern documentation system for the garden

**2007-2008**

- Performing the operation of organizing damaged stone pavements of the pavements according to sanctioned laws
- Performing mechanical and electrical installations of *Bagh's* museum
- The operation of changing the soil of the small gardens
- Changing destroyed materials of some waterworks of the garden
- Maintenance of windows and doors

### ***Bagh-e Abas Abad***

Probably, the first archeological researches in Behshahr- *Abbas Abad* were done on the flung open building in the center of the *Abas Abad* basin in 1977 before Islamic revolution (head of control: Dr. *Aliakbar Sarfaraz*). *Abas Abad-e* Behshahr is the first place in Mazandaran province that archeological researches were done in Islamic republic era.

- The archeological researches were done in the historical garden of *Abas Abad* in the *Hammam* in western part of the garden. These researches were done at this time to prevent the constructions and to show the architecture phenomenon as well as the sensitivity of the case (head of the board of control: Mohammad Jaafar Nikkhah).



Fig.4-24.Archeological excavation of Safavid Hammam (The Base of *Bagh-e Abas Abad*)

### **2003**

The archeological researches were done for three reasons, namely:

- A) To identify the water pipes and watercourses to know how the water enters the garden
- B) Doing archeological researches on Gol-Bagh to recognize the importance of this part in allocating water of the historical complex



Fig.4-25.Archeological excavation of Gol-Bagh (The Base of *Bagh-e Abas Abad*)



C) Determining the core and buffer zones of the garden increased to 530 hectares and excavating archeological sites such as mill, palace, industrial centers of making brick and crockery, stone pavements of Safavids period and the cemetery (the first millennium B.C), and finally their map was provided.



Fig.4-26.Archeological excavation of the Garden (The Base of *Bagh-e Abas Abad*)

#### **2004**

During the archeological investigation in Gol-Bagh and eastern gate The researches of eastern gate were to recognize the northern gate architecture and the way of access to the garden (Board of control: the author: Abdolvahab Moosavi Nasab).

#### **2005**

Finishing archeological researches in Gol-Bagh, maintaining them in the eastern and northern gates of the garden to discover the watercourses of the garden and also recognizing the northern gate architecture.

#### **2006**

After archeological researches in the eastern gate of the garden, maintaining them in the northern gate led in recognition of *Panjdari* rooms and acclaiming *Abbas Abad* as a country sector. Some researches were also done in the palace in the area of 2000 squad meters (50 × 40 meters) with stone walls (Board of control: the author: Abdolvahab Moosavi Nasab).

#### **2007**

Continuing the archeological researches in the northern gate and the palace

## **2006**

Finishing archeological researches in the northern gate, doing researches in the western part to recognize the culture of gardening in the western part, researching the southern platform to recognize the architecture and irrigating system in this part (Board of control: the author: Abdolvahab Moosavi Nasab).

### **The past conservation reports**

Based on the archeological findings in *Bagh-e Abbas Abad*, we can observe three historical layers in this historical complex. The first is the Safavids period or the beginning of constructions and with the other two following it. For example, we can mention building pavement and obstructing the platform corridors as far as the lower platforms. All these changes will be included in a past repairs report.



Fig.4-27.Stone wall before restoration (Base of *Bagh-e Abbas Abad*)



Fig.4-28.Stone wall after restoration (Base of *Bagh-e Abbas Abad*)

### **The present conservation activities**

Steering committee of the base made and passed important decisions about the method of garden conservation. Finally, the conservation actions were performed based on the archeological findings during 10 years of researches in the historical garden of *Abbas Abad* in Gol-Bagh and its palace. The base continued to repair architectures discovered during archeological researches. For example, we can name the garden axes containing passages and open irrigating canals. In this method, the bricks are made in a new frame but their size and their material is original. In general, the eastern road (the main entrance of the garden), the northern road, and some parts of the southern roads have been unearthed completely.



Fig.4-29.Conservation of garden's pavement  
(Base of *Bagh-e Abas Abad*)



Fig.4-30.Restoration of pavements (Base of *Bagh-e Abas Abad*)

***Bagh-e Shahzadeh:***

The present conservation actions:

The plan of modifying light system of the garden is performing at the present time.

Past conservation activities:

We can divide the conservation actions done in *the Bagh-e Shahzadeh* in 6 periods:

**1- The first period (1976- 1978):**

The Cultural Heritage Organization has taken the control of *Bagh-e Shahzadeh* since 1975, by then the conservation operations started as follows:

- Repairing basins containing brickworks, waterfalls and the body of the basins
- Consolidation of *Shahneshin* building
- Restoration of the stone platforms in front of *Shahneshin* building



Fig.4-31.Installing the water course stones (Base of *Bagh-e Shahzadeh*)



Fig.4-32.Soil removing around the pond (Base of *Bagh-e Shahzadeh*)



Fig.4-33.Soil removing of small gardens (Base of *Bagh-e Shahzadeh*)



Fig.4-34.Restoring doors and plasters inside the *Shahneshin* 1987- 1995 (Base of *Bagh-e Shahzadeh*)

## 2- The second period (1987- 1995):

After the Pahlavi era, the conservation actions began in 1987 after a long delay and were mostly devoted to boost security measures.

- Repairing doors and removing the stains of the plaster inside the *Shahneshin* building (along with starting the restoring of the second floor)
- Restoration of the external plinth of the outside façade
- Restoration of stairs, partitions, tabulations and water courses
- Maintenance of basins



Fig.4-35.Starting the restoring of the first floor (1987) (Base of *Bagh-e Shahzadeh*)



Fig.4-36.Restoring partitions of water course (Base of *Bagh-e Shahzadeh*)

## 3- The third period (1995)

This period comprised a comprehensive repairing operation under the supervision of the Cultural Heritage Organization aiming at preparing the garden for Khajuy-e Kermani Congress based on financial support of Kerman Governor's office.

- Restoration of the stone pavement of the whole garden
- Restoring the enclosure
- Restoring water courses
- Restoring the second floor of *Shahneshin* building destroyed in the past
- Repairing bathhouses (*Hammam*) completely



Fig.4-37. Restoring water courses (Base of *Bagh-e Shahzadeh*)



Fig.4-38. Restoring the second floor of *Shahneshin* (Base of *Bagh-e Shahzadeh*)

- Lighting of the garden
- Rehabilitating *Shahneshin* building



Fig.4-39. Changing ramps into stairs and corridors (Base of *Bagh-e Shahzadeh*)



Fig.4-40. Stone pavements of the garden floor (Base of *Bagh-e Shahzadeh*)

#### **4- The fourth period (2002- 2005):**

The reinforcement of the second floor of the entrance façade was performed. It is necessary to mention that ID cards were issued for garden trees after 2003

#### **5- The fifth period**

- Restoring underground water canals outside the garden toward the upper basin
- Restoring the fountains



Fig.4-41. Restoring the irrigating system (Base of *Bagh-e Shahzadeh*)



Fig.4-42. Restoring the fountains (Base of *Bagh-e Shahzadeh*)

**6- The sixth period (2006- 2009):**

- Complete Restoring of roofs
- Restoring of Zaeem Bashi house



Fig.4-43. Restoring Zaeem Bashi House (Gholamnejad)

***Bagh-e Dolat Abad*****1976**

Conservation activities in *Bagh-e Dolat Abad* were started in 1969 by ICHHTO. The conservation activities continued until 1982.

- Consolidation of foundations in the Mirror Hall (*Talar-e Ayeneh*)

The *Badgir* pavilion:

- Restoration of the *Badgir*
- Restoration of the *Badgir*'s ornaments according to the original plan
- Making doors and latticed windows around *Hashti* (entrance), rooms and *Orsi* windows
- Restoring the brick cover of the *Hashti* (entrance) Dome

Landscape and Gardening:

- Restoring of brick pavement such as the old samples
- Restoring the surrounding wall of the garden
- Reorganizing the entry of Haramsara building

**1977**

*Talar-e Ayeneh*:

- Protective conservation of side walls
- Restoring of Hasht-o nim Hasht Hall and *Badgir* (ventilation) behind the Hall
- Restoring of external facade of the building

Household and Kitchen:

- Restoring arches and plasters inside the building
- Paving the floor by bricks and making wooden doors in reservoirs of the kitchen

*Tehrani Hall, Sabat* and Cistern:

- Consolidation of arches
- Consolidation of the walls



Haramkhaneh:

- Conservation of internal facade
- Restoring corridor and room and Hall floors according to the original plan and materials
- Restoration of *Badgir* (traditional ventilation system).
- Restoring the doors of the rooms and the Hall

### **1978**

Haramkhaneh:

- Conservation of the main *Badgir* (traditional ventilation system) of the building.
- The upper and lower chain and plastering of clay and straw of the shelf of the *Badgir*
- Restoring stall of the Hall and the *Badgir* and plastering of clay and straw and whitening internal space of the building
- Restoring of arches of both sides of the Hall completely
- Restoring the external facade
- Excavating, Restoring and restoring of the entry of the water course into the garden

Landscape and Gardening:

- Reorganizing the western enclosure of Behesht Aeen

### **1983**

*Talar-e Ayeneh*:

- Conservation measures in the first floor
- Restoring brick plinths of the north facade
- Restoring of north facade of the building and installing 16 windows in this part.
- Restoring the stairs
- Brick pavement of the floors of corridors and rooms
- Installing wooden frame and door for the rooms of the building

Haramkhaneh:

- Restoring of the internal facade
- Restoring the wooden doors of the rooms

### **1979**

#### Haramkhaneh:

- Restoring of the fence of the stable behind Haramkhane of the building and plastering of *Kahgel* (clay and straw)
- Plastering the internal wall of the building with *Kahgel*
- Plastering of western and southern wall of the building
- Preparing canals and pipe-laying water in some part of the building.
- Brick pavement of internal space of the building
- Plastering the roof of the building with *Kahgel*, removing additional soil, plastering of *Kahgel* again
- Making and installing 12 pairs of doors and 6 pairs of windows and 3 nets for the building.
- Removing soil of some part of the roof
- Restoring the eastern facade of the building
- Reinforcing the old chalk layers and restoring the old parts of the first floor

### **1980**

#### Haramkhaneh:

- Plastering of *Kahgel* of some part of the ceiling, *Shotorkhan* and stable

#### Landscape and Gardening:

- Conservation of the south of *Badgir* pavilion
- Removing the marble wall of the basin of the Behesht Aeen

### **1981**

#### Haramkhaneh:

- Reinforcing the foundation of the stable equal to a size of 50×50 square meters
- Sewing the 6-Cheshme door of the arch and the wall of *Shotorkhan* and plastering it with *Kahgel*

**1982**

Haramkhane:

- Removal of the soil of the carriage house floor as well as 40 square meters of its brick pavement
- Repairing the foundation of the western and eastern walls of the carriage house by brick and cement
- Restoring the north western facade of *Shotorkhan* and repairing its ceiling
- Making and installing the frame and wooden door in south eastern part of *Shotorkhan*
- Repairing of watercourses
- Covering the second floor arches of the building as well as repairing and restoring the arch of the first floor portico
- Finishing northern and southern reservoirs and restoring them as well as the brick pavement of the reservoirs floor
- Restoring the fireplace on the east portico of *Badgir* building



Fig.4-44.Haramkhaneh (The Base of Persian Garden, Yazd)

**2001-2002**

- Reorganizing the area in front of the *Badgir* building such as little gardens and sidewalks
- Reinforcing and brick pavement the floor of the sidewalks in front of the *Badgir* building
- Restoring *Orsi* windows of the building
- Investigating and researching the old watercourse. Organizing them, Restoring foundation of Sabat and small market near the cistern

- Plastering the roof of the whole space and brick pavement of *Sabat* and small market with *Kahgel*
- Performing plinth and landscaping platforms of the *Sabat* and small market

### ***Bagh-e Pahlavanpur***

Present conservation activities:

- Conservation activities in the pavilion
- Conservation activities in Mirza Nasrollah and Anjirak watermill

### **Conservation activities in 1999- 2008:**

The tower and the stall:

- Cleansing and removing rubbles in the stall
- Restoration of the stall's roof
- Repair the walls and perform *Kahgel* coating
- Performing maintenance activities in the tower
- Restoration of interior space of the tower
- Performing *Kahgel* plaster on the interior walls of the interior space
- Repairing the roof of the tower
- Laying drain pipes for the tower



Fig.4-45. The tower after done repairs (The Base of Persian Garden, Yazd)

The pavilion:

- Perform *Kahgel* coat in interior and exterior walls of the building
- Conservation activities on the roof of the pavilion



Fig.4-46.The pavilion after performing Kahgel coat (The Base of Persian Garden, Yazd)



Fig.4-47.Location of the pavilion (The Base of Persian Garden, Yazd)

The custodian house:

- Cleaning and remove rubbles in the custodian house
- Restoring the damaged vault
- Restoring the demolished wall of the building
- Restoring and reinforcing the roof
- Performing drain pipes for the building

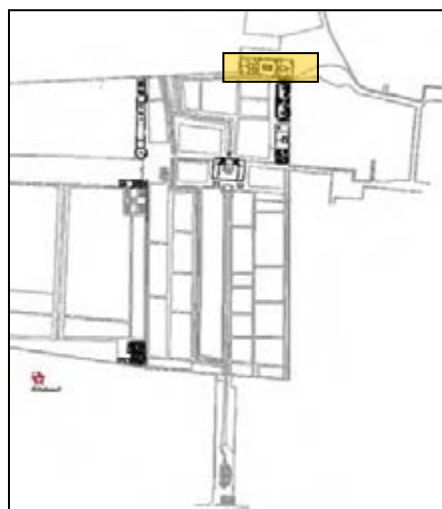


Fig.4-48.Location of the custodian house (The Base of Persian Garden, Yazd)



Fig.4-49.T pavilion after repair and maintenance activities (The Base of Persian Garden, Yazd)

*Zemestan-khaneh* (winter residence):

- Removing rubbles in the winter residence
- Replacing wrecked doors of the building
- Restoring the vault of the winter residence
- Restoring the roof of the building
- Restoring the façade of *Zemestan khaneh*
- Plastering the walls with *Kahgel* coat



Fig.4-50.*Zemestan khaneh* after restoration (The Base of Persian Garden, Yazd)

Fortification and landscape features:

- Reinforcing and Repair the mud wall surrounding the garden
- Performing *Kahgel* coat on the mentioned walls
- Improving external access to the garden
- Performing stone pavements in the garden with respect to traditional craftsmanship of the garden
- Restoring water streams and *Karts*



Fig.4-51. After restoring the mud wall surrounding the garden (The Base of Persian Garden, Yazd)



Fig.4-52. Restoring water ways and Karts (The Base of Persian Garden, Yazd)

### ***Bagh-e Akbariyeh:***

#### **2004**

- Improving the lighting system of the garden.
- Restoring the stone pavements
- Restoring Waterways



Fig.4-53. *Bagh-e Akbariyeh*, restoration of the stone pavements (Base of *Bagh-e Akbariyeh*)

- Restoring Walls of the garden
- Removing and replacing Eroded bricks with new ones
- Excavating the Pavement of the garden to reach the authentic pavement
- Removing Weeds in the garden

- Restoring the roof of the *Ab-Anbar* (water reservoir)
- Restoring the Walls of teahouse
- A green house was constructed to raise local flowers
- Restoring the pavilion's roof
- Restoring Roof of teahouse
- Removing Non-authentic added orchards
- The illumination system of the garden was finished

### **2005**

- Removing The extra load on roofs
- Restoring the Roofs respecting the traditional workmanship.
- Assembling cooling and heating utilities in the Showkat- al Molk building

### **2006**

- Constructing Drainage canals in some parts of the garden
- Restoring Walls of western side of the garden
- Changing Unsuitable usage of the stall
- Finishing coats and decorations of the main pavilion were restored
- Restoring Windows of the main pavilion
- Restoring wooden doors



Fig.4-54. Walls of the Bagh before Restoring (Base of *Bagh-e Akbariyeh*)



Fig.4-55. Restoring and repairing the walls (Base of *Bagh-e Akbariyeh*)



**2007**

- Removing 15 centimeters of the stall pavement's surface in an area of 146 m<sup>3</sup>
- Restoring brick footings of the walls
- Replacing *Kahgel* (plaster of clay and straw) of the yard walls
- Removing eroded-finishing layers of the interior and exterior walls of the stall
- Restoring demolished eaves considering the traditional workmanship
- Repairing interior floors
- Constructing a lavatory for the office
- Equipping the green house
- Inappropriate finishing of the storehouse near the pavilion was replaced
- Electrical utilities of the pavilion were improved
- Pavilion was equipped with heating and cooling utilities



Fig.4-56.Stall before restoration (Base Of *Bagh-e Akbariyeh*)



Fig.4-57.Stall after restoration (Base Of *Bagh-e Akbariyeh*)

**2008**

- The eastern side of the storehouse was consolidated
- Cleaning wall plaster of the museum building
- Doing a research on the history of *bagh-e Akbariyeh*
- Preparing a revitalization plan for the garden
- Performing maintenance activities for plants
- Repairing the pavilion roof
- Restoring the floor of the pavilion's entrance

#### **4. b Factors affecting the property**

##### *Ancient garden of Pasargadae*

###### **Development pressure:**

Constant seasonal precipitations, severe temperature fluctuations in different seasons (particularly sudden drop of temperature at nights, which results in great temperature difference between days, and nights) as well as the exposure of monuments to open air elements, which gradually wears out their body and materials, have intensified the impact of deteriorating factors.

Among damaging factors observed in the complex are lichens, moss, stone powdering and flaking due to being cut by ice and air exposure (aeration), plants growth, inappropriate building materials used and inferior construction techniques. Each item will be briefly described in the following and the relevant tables will be presented:

###### **Lichen:**

This phenomenon is seen sporadically upon stones remaining from Palace P (due to their type) or at those sections which are in shadow and lose their moisture comparatively later than other sections. For example, lichen appears in southeastern pier in that part of the pier, which has a coarse surface created by scraping and chipping and is less exposed to sunlight and wind.

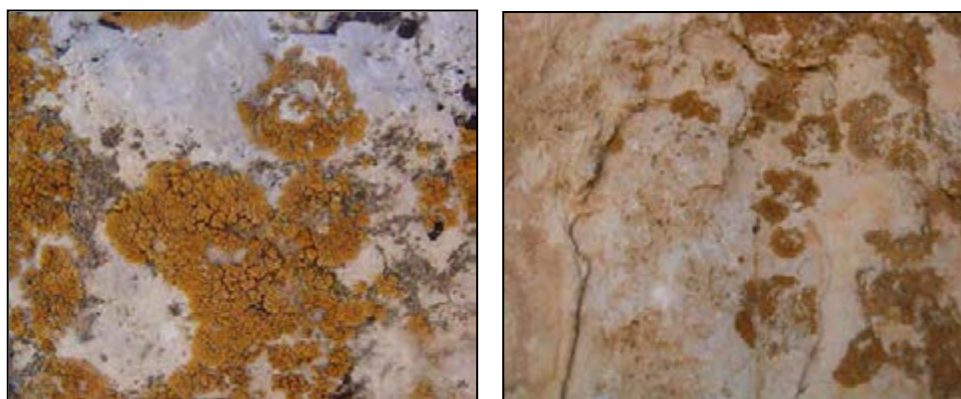


Fig.4-58.Lichen growth upon spots not exposed to sunlight, southeastern pier, Palace P.  
( Parse-Pasargadae Research Foundation Archives)

In contrast, we observe no lichen growth upon those spots of palace column, which were exposed to sunlight and wind. However, even in spots where condition has been suitable for lichen growth, due to low reserve of organic materials in stone works the spread of this kind of damage is minimal.

**Moss:**

Meager growth of moss is seen between the cracks and grooves generated on stones in Palace P. In some instances, stone surfaces that have become brittle by various factors are slightly moss infested. White stones used in floors as well as buff colored stones used in palace foundation have absorbed soil water and the moisture remaining from rainfall. When ice pieces cut such stones at a frequent basis, their fabric weakens and surface cracks and fissures appear on them, which are a suitable spot for moss growth.

Because of longer roots of moss compared with lichen, they mostly grow and propagate upon the surface of organic materials, which not only have a soft fabric but also serve as a good nutritional resource for them. Of course, this phenomenon applies in those stones, which have become brittle for various reasons and are located in wet climatic conditions.



Fig.4-59. Moss growth inside stone fissures, Palace P  
(Parse-Pasargadae Research Foundation Archives)

**Flaking:**

Several factors contribute to flaking such as: salt crystallization and its contraction and expansion inside stone structures as well as severe temperature vacillations.

The position of the palace results in its constant exposure to natural elements. For example, its stone parts have maximal sunlight exposure, which makes the moisture penetrating into stone surface by rainfall or underground water tables to evaporate faster. As a result, there is

no opportunity for the dissolution and crystallization of salt and its ensuing pressure. The main reason for generation of this phenomenon in Palace P is temperature oscillations in various weather conditions.



Fig.4-60.Flaking of stones, Palace P (Parse-Pasargadae Research Foundation Archives)

The damage is visible on grey stones due to the weakness of the link between deposited layers of their structure. Because of their dark colors, these stones undergo great expansion and contraction and even a slight temperature variation makes them react. Same damage is seen in buff colored stones used in Palace P as well as Royal Garden water views due to their soft fabric.



Fig.4-61.A sample of lamination and shattering of lime stones and black stones (Parse-Pasargadae Research Foundation Archives)

**Frosting:**

When the rainwater infiltrated and trapped in stone foundations and floors is frozen due to the decrease in evaporation as well as lowering of air temperature, water volume increases and results in the generation of cracks and grooves on stone surface. This damage occurs particularly during cold seasons. Moreover, another cause of cracking and breaking in columns and pedestals of the complex in the past was the fall of building materials and collapse of column slips.



Fig.4-62. Stones breaking and crushing due to temperature oscillations and fall of building materials in Palace P (Parse-Pasargadae Research Foundation Archives)

**Withering:**

There have been few instances of big and small orifices forming upon the surface of Palace P stones, which in few cases have resulted in insects nesting in them. By deepening such holes, insects contribute to their destruction. Effect of such phenomenon on columns of Palace P has been minimal. The most harmful effect has been the surface erosion of some of them due to

their long-lasting burial in the ground, their exposure to the elements as well as permanent humidity. Wind current also aggravates the problem of column surface erosion.



Fig.4-63. Sample of column slips erosion by wind and holes formed inside stones due to their aeration, Palace P( Parse-Pasargadae Research Foundation Archives)

### **Patina**

Stones used in Palace P do not suffer much from patina because they contain less iron in their composition; therefore, we see minimal color change in them with the exception of stones used in the southeastern pier of the palace, which shows obvious discoloration.



Fig.4-64. Patina of the southeastern pier, Palace P( Parse-Pasargadae Research Foundation Archives)

### **Plant Growth**

Growth of various plants amid buff colored stones used for palace foundation is evident. Seeds scattered in the soil of this section grow in warm seasons and not only cover stones surfaces and distort their appearances but also lead to further damages.

When growing inside stone fissures and cracks, plant roots put pressure on them which results in more cracking. Additionally, increased plant growth results in the attraction of biological factors such as animals (like reptiles) causing further damages. Sporadic samples of such phenomenon can be observed amid white stones inside the palace foundation.



Fig.4-65.Plant growth around relics of Palace P: as evident in the picture, this phenomenon can be seen at sections leveled by clay and gravel. (Parse-Pasargadae Research Foundation Archives)

#### **Visitors Pressure and Social Factors:**

Social factors include taking off dovetailed braces and removing restorative patches belonging to the Achaemenids era by some visitors. Furthermore, writing graffiti and engraving different pictures upon stones using various tools are among other obvious harms in Palace P. It must be noted that these damages have occurred before specifying its buffer and core zones by Foundation experts, which led to its being included in the national, and world heritage lists.(Damage identification in Palace P, Pirak, Mehdi, 1384 SAH, pp.3-19)



Fig.4-66.Removal of dove-tailed clamps and patches as well as engraving impressions on monuments (Parse-Pasargadae Research Foundation Archives)

***Bagh-e Eram:***

**Development pressure:**

The most important change in the past is separating some parts of the garden in 1963 during the Pahlavis era and changing their function to a residential one.

The historical water resource of the garden (*Qanats*) is out of order because of urban development.



Fig.4-67.Urban development around the *Bagh-e Eram*  
(google earth)

Installing modern equipment and installations on the façade caused small problems in the visual aspect.



Fig-4-68.Electrical utilities on the Sharbatkhaneh pavilion’  
facade (s. malekpur)



**Environmental pressure:**

Decay in lower part of the building façade because of Rising damp



Fig.4-69.rising damp in external wall of the main pavilion (S.Malekpur)



Fig.4-70.rising damp in external wall of the main pavilion (S.Malekpur)

The crack of arches, changes in color of the plinths because of damp and erosion



Fig.4-71.Erosion in the Main Ivan (S.Malekpur)



Fig.4-72.Erosion in Main Ivan (S.Malekpur)

**Natural disasters:**

No evidence including any damage due to natural disasters has been found

**Visitor pressure:**

Visitor pressure during *Nouruz* (Iranian new years eve lasting for about a fortnight in late March and Early April of each year) is the only major threat of this kind to *Bagh-e Eram*. Facilities for controlling tourism impacts are adequate, but necessary research is still underway in this regard.



Fig.4-73. tourism pressure in Nouruz period in *Bagh-e Eram* (ICHHTO archive)

***Bagh-e Chehelsotun***

**Development pressures:**

Administrative buildings such as the governor’s office stand between *Chehel Sotun* and *Bagh-e Khalvat* and it leads in blocking the southern part of the garden.

Blocking the western entrance causes blocking Darvazedolat, that is the link between *Nagsh-e Jahan*, *Chahar Bagh* and *Hasht Behesht*. Within the management objectives of the garden, rehabilitation and regeneration programs are considered according to historical evidences.



Fig.4-74. *Bagh-e Chehel Sotun* in its historic context affected by urban development (google earth)



Fig.4-75. The eastern wall of the garden (Fazlinezhad)

**Environmental pressures:**

The decays in the central *Kushk* (pavilion) of the garden are usually traces of the past decays, which have been controlled now. In the eastern and northern parts, traces of humidity can be seen at work, which has also caused small cracks and some other problems in the surface of the stone and the stone plinths around the palace.



Fig.4-76. The trace of the falling damp on the Kushk ceiling (Fazlinezhad)



Fig.4-77. Affect of falling damp in Northern entrance (Fazlinezhad)

In addition, a vertical crack is observed in the sidewall of the north entrance because of dampness.



Fig.4-78. Erosion of Stone plinths because of environmental factors (Fazlinezhad)

**Natural disasters:**

*Chehel Sotun* palace caught fire in the twelfth year of Shah Soltan Hussein monarchy, then some repairing actions were done and most probably, they were conducted according to the original form of the past.

**Visitor pressure:**

The interference between the official function and tourist visits causes some problems in both. A high number of tourists visit the garden in the high season (*Nouruz*) however, the garden comes under protective panels and guides in these times.

***Bagh-e Fin:*****Development pressure:**

Developing in areas near Fin, building operations of *Qom– Isfahan- Kashan* highway, developing the axis of *Fin- Kashan*, increasing the population of the neighborhood, are the factors that can affect the historical garden.

The temporary parking lot near *Bagh-e Fin* that has made traffic jam around the garden causes some problems. Of course, it is possible to move it to another part. Within the management objectives, this problem is considered and also the affects of these factors are controlled with core and buffer zones regulations.



Fig.4-79.Parking space in north – western part out of the garden (khoshnood)

**Environmental pressure:**

Because of the regular conservation actions, damages caused by environmental factors are under control.

Falling damp in Safavids pavilion is because of environmental pressures. It can be seen on the external facade and some internal parts of the structure.



Fig.4-80. The main facade of Safavid Kushk in front of the main facade of the garden, decay in chalk decoration (Khoshnood)

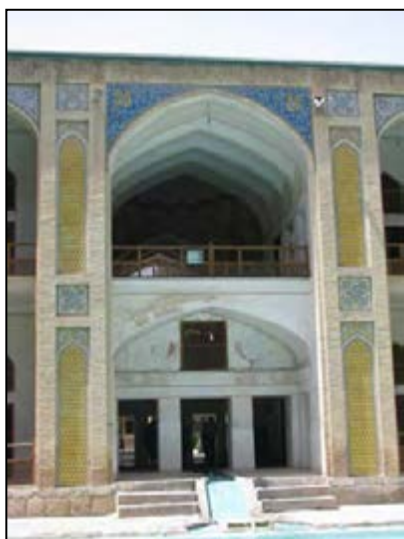


Fig.4-81. The trace of the falling damp on the external façade of Safavid pavilion (Khoshnood)



Fig.4-82. the entry behind the museum of *Bagh-e Fin*, deterioration due to rising damp (Khoshnood)

Some damages are observable in Qajaris pavilion because of not finishing the previous repairing plans that will be done in next repairing programs. For example, we can mention the plinth stones of the internal part of the Qajaris pavilion.

There are few parts in the wall around the garden that need interventions such as repairing the cracks, changing bricks and plastering with *Kahgel* (clay and straw) in some parts.

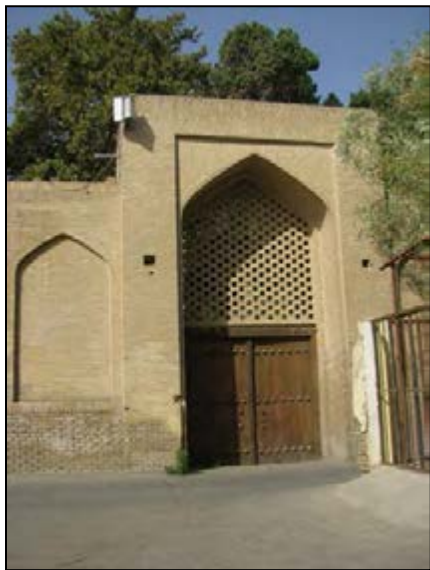


Fig.4-83. The trace of the rising damp in the entry of the building (Khoshnood)



Fig.4-84. some of the Karts of the garden are empty (Khoshnood)

Conservation operations have been done in Khalvat-e Karimkhani this year, so it is in an appropriate condition. No major damage is observed in the internal space of *Shahneshin* building, with the exception of some traces of rising damp on its external facade.



Fig.4-85. the Shaheshin (Khoshnood)



Fig.4-86. The internal Khalvat-e Karimkhani. (Khoshnood)

Loss of plants and specially Cypress tries are mostly due to the environmental factors and pests. In addition, some factors such as removing the soil in some parts of the garden cause



some problems. At present pathological investigations about the plants are being done by a botanical research team.

#### **Natural disasters:**

The only damage by earthquakes happened during 1722 – 1797, which ruined Fin and some parts of *Bagh- e fin*. The earthquake in 1163 LAH (1749) in the Karimkhan-e Zand era took place in *Fin*. It is not clear that which parts of the garden were destroyed by earthquake. The plan of protection of the city of Kashan against earthquake is being prepared.

#### **Visitor pressure:**

Increased number of visitors in some parts of the garden and in certain months of the year—mainly in mid April, beginning with *Nouruz* holidays and continuing until late July increases the risk of damages during the summer.

No especial structural damage is observed in the *Hammams* (bathhouses) because conservation operations are constantly conducted in this part, but the possibility of manmade damages has been increased because of large numbers of visitors and tourists. (Increase of guides)



Fig.4-87.The twelfth – spout pond in front of Safavid shahneshin (Khoshnood)



Fig.4-88.Howz-e Joosh in front of Safavid Shahneshin (Khoshnood)

### ***Bagh-e Abas Abad***

#### **Development pressures:**

138 hectares of the forest territories of the historical garden of *Abbas Abad* were given to the Tourism Organization before merging two organizations of Cultural Heritage and Tourism into ICHHTO. On the other hand, Tourism Organization gave construction authorization to private sector because of regional natural attractions. Therefore, restaurants, parking lot, sanitary facilities as well as twenty fountains were built. However, after the establishment of *Bagh-e Abbas Abads* base, development projects were stopped and former constructions were changed and controlled under buffer zone regulations.

#### **Environmental pressures:**

The most important factor that affects architectural remains in *Bagh-e Abbas Abad* is humidity and growth of plants. Vehicles entrance in to the site is another factor. Regular conservation activities are underway in the site.



Fig.4-89.Environmental affects on archeological remains, *Bagh-e Abbas Abad* (Base of *Bagh-e Abbas Abad*)



Fig.4-90.Environmental affects on the tower of the garden (the Base of *Bagh-e Abas Abad*)



Fig.4-91.Environmental affects on Chahar Taqi, *Bagh-e Abas Abad* (theBase of *Bagh-e Abas Abad*)

The geographical location of the site (historical garden), high dampness and its forest setting are among the natural factors, which cause deterioration and destruction. For example, we can mention the growth and penetration of the tree roots into built structures.

**Visitor pressures:**

Visiting the garden is free of charge despite its archeological importance and the researches underway about the built features. So many visitors visit the site during the year coming from all around the country. Especially during the rainy season, visitor's entrance into the site results in some damages. Therefore, the Base has prevented the visitor's entrance in to the site during the rainfall to prevent affect of this factor. In addition, a special visiting path is being designed because of this factor.

### ***Bagh-e Shahzadeh***

#### **Development pressure:**

Urban development and its relevant factors are not threatening *Bagh-e Shahzadeh* because it stands in the countryside.



Fig.4-92. *Bagh-e Shahzadeh* is away from urban development pressures (ICHHTO of Kerman)

#### **Environmental pressure:**

There is no major damage in the garden now because of the attention paid to the garden and it is possible to prevent decays by suitable management and on time protection. Of course, there are some small problems like erosion of brick pavements.



Fig.4-93. Brick pavements destroyed in the floor (Gholamnejad)

**Natural disasters:**

*Bagh-e Shazdeh* is located in one of the seismic regions of *Iran*. Earthquakes of 1959 and 1982 damaged the garden. During the second disaster (1982), the second floor of the garden's pavilion was damaged that was restored later. In 2003's earthquake, no part of the garden was damaged.

**Visitor pressure:**

Because of the sufficient number of guides and guards present in the garden, there is no major problem due to visitors' pressure.

### ***Bagh-e Dolat Abad***

#### **Development pressure:**

Location of *Bagh-e Dolat Abad* has changed during time. Initially, this garden was located outside the city but now it is adjacent to urban fabric. Urbanization and new streets have cut off some of the old routes. In addition, some of the neighboring agricultural lands have turned into residential quarters.



Fig.4-94. The impact of urban development on *Bagh-e Dolat Abad* between 1956-2005 (Google earth-Base of the Persian Garden, Yazd)

#### **Environmental pressure:**

Cracking in the main summer pavilion basin is the result of environmental pressure. Ineffectiveness of the old water resources that caused problems in the *Qanat* because of urban development. In order to overcome the problem of water inadequacy water well was excavated.



Fig.4-95. The new water well in *Bagh-e Dolat Abad* (Asadi)

- Deterioration of ornaments of winter pavilion due to environmental factors
- Plant growth in water courses and on pavements



Fig.4-96. Growth of plants in the watercourse (Qajari)



Fig 4-97. Deterioration of winter pavilion decoration (Qajari)



Fig.4-98.Kahgel coat eroded because of termite (Asadi)

#### **Natural Disasters:**

No natural disaster like earthquakes or flood has happened thanks to *Bagh-e dolat Abad's* regional location.

#### **Visitor Pressure**

Visitor pressure during *Nouruz* (Iranian new years eve lasting for about a fortnight in late March and Early April of each year) is the only major threat of this kind to *Bagh-e Eram*. Facilities for controlling tourism impacts are adequate, but necessary research is still underway in this regard.



Fig.4-99.Engravings and writings of visitors on the walls of the pavilion (Base of the Persian Garden, Yazd)



### ***Bagh-e Pahlavanpur***

#### **Development pressure:**

- Inappropriate interventions caused damages to ornaments and paintings of the pavilion;
- Using some spaces as stock room;
- Some entries doors and windows are blocked due to new function of the buildings;
- Unsuitable electrical utilities in the buildings;

Concluding the installing of electrical utilities and reorganizing the functions of spaces are among short and mid- term objectives of the base



Fig.4-100.Using some spaces as stock room (Base of the Persian Garden, Yazd)



Fig.4-101.Unsuitable electrical utilities in the building (Base of the Persian Garden, Yazd)

#### **Environmental pressure:**

- Deterioration of mortars and plaster due to environmental factors;
- Rising damp caused damage in the enclosure the garden;



Fig.4-102. Rising damp in the enclosure of the garden (Base of the Persian Garden, Yazd)



Fig.4-103. Affect of falling damp on the façade (Base of the Persian Garden, Yazd)



Fig.4-104. Affect of intense wind on a tree (Base of the Persian Garden, Yazd)

- Deterioration of some parts of irrigation system due to oldness and environmental factors;
- Damage in some trees due to regional intense wind;
- Deterioration of wood works in *Sharbat-Khaneh* building;



Fig.4-105.Deterioration of wood works  
(Base of the Persian Garden, Yazd)



Fig.4-106.Affect of falling damp on the stone  
pavements (Base of the Persian Garden, Yazd)

**Visitor pressure:**

Due to the low number of tourism there is no major problem about tourism pressure in the *Bagh-e Pahlavanpur*.

### ***Bagh-e Akbariyeh***

#### **Development pressures:**

The influence of development on *Bagh-e Akbariyeh* located in Birjand can be evaluated from different point of views. The first factor is about the development of the city. In fact, the garden was located in the suburb in the past, but after the urban development toward the south, it was absorbed into the city.

Building a construction near the garden is another factor that affects the general view of the building, although these constructions are not in the building's zones.



Fig.4-107. Constructions in the vicinity of the garden (S. Kelayeh)

The overuse of natural resources is another factor that affects the garden. Urban development has caused some problems in *Qanats*. After establishment of the National Base of Persian Garden, conservation and revitalization activities are underway on *Qanats*.

Installing the electrical utilities of the garden according to the present needs and based on specific uses has caused some minimal problems.



Fig.4-108. Heating and cooling utilities in the building (S. Kelayeh)

**Environmental pressures:**

The most important environmental factors that affect *Bagh-e Akbariyeh* are rising and falling damp, the impact of the damp is observed as stains on the body and plinths of the building.



Fig.4-109. The affect of rising damp on the building (S. Kelayeh)

The ventilation canals do not work properly in some parts. This factor also causes some problems in the building. Falling damp is also observable in eaves and the walls.

Structural damages are the result of different factors such as movement of the ground layers.

**Visitor pressures:**

High number of visitors in high seasons such as *Nouruz* causes some problems. Necessary measures are being taken in this regard.

**A Summary of Conservation State of nominated Gardens:**

***Ancient Pasargadae Garden***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Buffer zone regulations prevent damages resulting from development of Madere soleyman village.</li> <li>- Regular monitoring</li> <li>- Regular documentation</li> <li>- Regular conservation activities</li> <li>- High tourist attraction due to cultural significance of the property</li> <li>- Being a part of a world heritage site</li> <li>- Traditions of tribes as a tourism attraction</li> <li>- The Comprehensive Tourism management plan of the <i>Pasargadae</i> site</li> </ul>	<ul style="list-style-type: none"> <li>- Unsuitable Visual impacts of neighboring villages</li> <li>- Investors are not aware of investment potentials</li> <li>- Fragility of the property as an archeological site</li> </ul>	<ul style="list-style-type: none"> <li>- Collaboration between Fars ICHHTO and different stakeholders in management and conservation activities</li> <li>- The site is located in a region with a strong historical and cultural significance.</li> <li>- Education and Presentation plans with different targets (local communities, authorities etc.)</li> <li>- Income from visitor tickets</li> <li>- Opportunities in tourism field</li> </ul>	<ul style="list-style-type: none"> <li>- Air pollution due to industries in the region</li> <li>- Future development of neighboring villages</li> <li>- Increasing population of neighboring villages</li> <li>- Humidity of the region due to underground and falling water</li> </ul>

***Bagh-e Eram***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Approved buffer zone regulations;</li> <li>- Tourism attraction</li> <li>- Expert consultations of University of Shiraz are permanently</li> </ul>	<ul style="list-style-type: none"> <li>- Functions of some neighboring lots has changed</li> <li>- Some of the plants have withered in the eastern part of the garden.</li> <li>- Ancient water</li> </ul>	<ul style="list-style-type: none"> <li>- Research projects about tourism are being done by university of shiraz</li> <li>- Research projects that are in process</li> <li>- Shiraz city is one</li> </ul>	<ul style="list-style-type: none"> <li>- Some parts of the garden do not have any functions and it may cause neglect</li> <li>- Air pollution (the garden is located in an urban area)</li> </ul>

<p>available;</p> <ul style="list-style-type: none"> <li>- Regular monitoring and conservation activities;</li> <li>- Authenticity of the main pavilion;</li> <li>- The pavilion of <i>Bagh-e Eram</i> is considered as a prominent building of <i>Qajarids</i> era.</li> <li>- Most of the plants are authentic</li> <li>- Research and monitoring activities performed by University of Shiraz</li> <li>- Waterworks and irrigation systems inside the garden are authentic.</li> <li>- Water circulation system is being revitalized based on researches underway</li> <li>- Conservation, monitoring and maintenance of plants and waterworks are underway regularly.</li> </ul>	<p>resources are not utilized any more due to urban development pressure.</p>	<p>of the main targets of tourists at a national and international scale.</p> <ul style="list-style-type: none"> <li>- Collaboration with research institutes in water and soil testing</li> </ul>	<ul style="list-style-type: none"> <li>- Tourism pressure in some seasons, especially during spring and summer</li> </ul>
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**Bagh-e Chehel Sotun**

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>- Approved Core and buffer zones regulations</li> <li>- Most of Garden’s spaces are open to public</li> <li>- Some spaces are used as museum and exhibition places for cultural heritage and relics.</li> <li>- Outstanding decorations and architectural technology in the gardens pavilion</li> <li>- Regular conservation and maintenance in past and present</li> <li>- There are no inappropriate interventions in the pavilion</li> <li>- The pavilion which is a prominent example of Safavids pavilions is in an acceptable conservation condition</li> <li>- Uncovering of one of the historical basins after archeological excavations</li> <li>- Trained experts and staff are available in Isfahan provincial base.</li> <li>- Research, monitoring and studies about the trees and plants are underway regularly.</li> </ul>	<ul style="list-style-type: none"> <li>- Some spaces of the pavilion are not open to visitors due to official functions</li> <li>- Some historical paintings have been damaged in last decades.</li> <li>- Presentation and educational programs were not adequate in the past.</li> <li>- Lack of tourist facilities</li> <li>- Visitors can visit only the northern and eastern areas of the garden.</li> <li>- Some of existing furniture in the garden do not meet historical values of the garden in form and color.</li> <li>- Historical water sources like Fadin, Juishah <i>Madies</i> are not used anymore for irrigating the garden.</li> <li>- Some plant species have been substituted with inappropriate ones.</li> </ul>	<ul style="list-style-type: none"> <li>- Existing historical documents are available for researches about the garden and its conservation.</li> <li>- <i>Bagh-e Chehelsotun</i> is located between the <i>Chahar Bagh</i> street and <i>Meydan-e Imam</i>.</li> <li>- Historical context around the garden</li> <li>- Cooperation of different organizations like the municipality and ICHHTO in Isfahan province</li> <li>- Art university of Isfahan (pardis) which has related courses</li> <li>- Historical waterworks are preserved and can be utilized after restoration.</li> <li>- Experienced craftsmen who work for Isfahan ICHHTO</li> <li>- There are various research institutes and universities in Isfahan active in related fields.</li> </ul>	<ul style="list-style-type: none"> <li>- Due to the construction of new streets, <i>Bagh-e Chehelsotun</i> has been cut off from the main historical route and because of this problem; some visitors are not able to visit this garden.</li> <li>- Development projects such as <i>Jahan nama</i> tower.</li> </ul>



<ul style="list-style-type: none"> <li>- Documentation of plants has been performed comprehensively</li> <li>- Educated staff present in Isfahan provincial base</li> </ul>			
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***Bagh-e Fin***

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>- Buildings are representing architectural styles of the Safavids era</li> <li>- Approved core and buffer zones regulations</li> <li>- <i>Bagh-e Fin</i> is a testimony to important parts of Iran's history (<i>Shah Abbas</i> the second's coronation, assassination of Amir Kabir and so on.)</li> <li>- Diversity of architectural decoration styles in the buildings.</li> <li>- Defect in some parts of the drain pipes</li> <li>- There is no major problem within the built heritage of the garden because of regular conservation and maintenance operations</li> <li>- Documentation of plants of the garden</li> <li>- Regular monitoring and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>- In some parts of the garden, modern utilities like cooling and heating systems and electrical utilities are installed without considering the visual integrity.</li> <li>- Ghom-Kashan highway</li> <li>- Defects within the drainage system of the garden teahouse</li> </ul>	<ul style="list-style-type: none"> <li>- Historical places and archeological sites near the garden, like sialk archeological site and Kashan historical city.</li> <li>- Living traditions in which <i>Bagh-Fin</i> plays a key role (like <i>Abrizan</i> tradition)</li> <li>- Expert consultations are available for Isfahan Base.</li> <li>- Authentic waterworks, which are not used, are preserved and after essential interventions can be utilized again.</li> <li>- Historical water mills within the neighboring area</li> <li>- Existence of historical passages and gardens in <i>Fin</i> neighborhoods</li> <li>- Collaboration with research institutes in water and soil testing</li> </ul>	<ul style="list-style-type: none"> <li>- Expansion of the city toward south</li> <li>- Construction of buildings in neighborhoods that are not compatible with the architectural style of the historical context of the area</li> <li>- Increase of land prices in neighboring areas of the garden</li> <li>- Visitor impacts</li> <li>- Because of developments around the garden, drainage systems of future buildings can be a threat to garden's water sources</li> </ul>

<ul style="list-style-type: none"> <li>- The authentic irrigation system and waterworks are being used in the garden.</li> <li>- Authentic Planting system and gardening</li> <li>- Authentic plant types (like Fini cypress)</li> </ul>			
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***Bagh-e Abbas Abad***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Approved core and buffer zones regulations</li> <li>- Built areas and archeological sites are in a good condition due to regular monitoring and conservation.</li> <li>- The garden is far away from residential centers and Behshahr city, so there is no great challenge of protecting it from urban development.</li> <li>- Historical and cultural significance of the garden</li> <li>- Great archeological and educational importance of the garden</li> <li>- Easy access to the site is possible.</li> <li>- Trained staff present in Behsahr Base.</li> <li>- The climate of the</li> </ul>	<ul style="list-style-type: none"> <li>- Due to high humidity of the area and oldness, relics remaining in the garden are very fragile</li> <li>- Visitors' path has not been defined yet</li> <li>- Controlling the growth of weeds is a great challenge in the garden (because of the humid and temperate climate, weeds grow rapidly)</li> <li>- Tall trees and density of the plants cause problems in tourism management.</li> </ul>	<ul style="list-style-type: none"> <li>- Mazandaran region plays an important role in Iranian ancient myths.</li> <li>- Some built parts of the garden are capable of serving new functions</li> <li>- Adequate tourism facilities in surrounding areas</li> <li>- <i>Bagh-e Abbas Abad</i> enjoys consultations of technical consultants and research centers.</li> <li>- Expert consultation is constantly available thanks to institutes and universities of Behshahr.</li> <li>- Because of the climate, the plants are in a good condition</li> <li>- Because of the high amount of rainfall, there is no water shortage for</li> </ul>	<ul style="list-style-type: none"> <li>- High humidity due to regional climate</li> <li>- Weeds and plants grow fast because of the humidity.</li> <li>- Large number of visitors in some seasons</li> <li>- High tourism appeal in eco-tourism sector</li> </ul>

<p>region is so suitable for the plants that there is a great diversity of plant and tree kinds in <i>Bagh-e Abbas Abad</i>.</p> <ul style="list-style-type: none"> <li>- A comprehensive documentation and research about the plants has been done.</li> <li>- The remains in the garden are important evidences of waterworks of the Safavids era and are of a great archeological value.</li> </ul>		<p>irrigating the garden.</p> <ul style="list-style-type: none"> <li>- Mazandaran region is known as a region with eco-tourism potentials.</li> </ul>	
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***Bagh-e Shahzadeh***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Approved buffer zone regulations</li> <li>- Regular monitoring</li> <li>- Regular conservation activities</li> <li>- Authenticity of the pavilion</li> <li>- Trained experts and staff are available in Kerman provincial base.</li> <li>- Waterworks inside the garden are authentic.</li> <li>- Research, monitoring and studies about the trees and plants are being done regularly.</li> </ul>	<ul style="list-style-type: none"> <li>- Some former inappropriate interventions in buildings</li> <li>- The garden is not easily accessible because it is outside the city.</li> <li>- Some plant kinds are not authentic</li> <li>- Defects and depreciations of water works</li> </ul>	<ul style="list-style-type: none"> <li>- Art University of Kerman in which related fields of studies are taught</li> <li>- Popularity of Kerman province among tourism sectors</li> <li>- Because of The location of the garden (out of the city), it is far from air pollution and urban development pressure.</li> <li>- Existing historical documents can be available for future researches about the garden and its conservation.</li> </ul>	<ul style="list-style-type: none"> <li>- The Kerman region is an earthquake prone region</li> <li>- Gradual soil erosion in surrounding areas, outside the garden</li> </ul>

<ul style="list-style-type: none"> <li>- Documentation of plants of the garden</li> <li>- Authentic Planting system and gardening</li> <li>- Authentic water resource(<i>Qant</i>)</li> </ul>		<ul style="list-style-type: none"> <li>- Experienced gardeners and craftsmen living in the region</li> </ul>	
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***Bagh-e Dolat Abad***

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>- Preservation of the authentic functions due to <i>Vaqf</i></li> <li>- Using various spaces of the garden as public spaces</li> <li>- Researches underway about the garden, based on historical documents</li> <li>- Approved regulations about core zone and buffer zones</li> <li>- Regular conservation activities</li> <li>- Essential utilities for cultural tourism are available in <i>Bagh-e Dolat Abad</i></li> <li>- Integration of the garden with surrounding area</li> <li>- Spaces in built parts of the garden suitable for new uses</li> <li>- Legal regulations</li> <li>- The <i>Badgir</i> tower of <i>Bagh-e Dolat Abad</i> that is the highest <i>Badgir</i> in</li> </ul>	<ul style="list-style-type: none"> <li>- Some inappropriate interventions in buildings</li> <li>- Absence of cooperation with related authorities</li> <li>- Absence of a comprehensive data base</li> <li>- Lack of training programs for staff</li> <li>- Ancient water resources that were used for irrigation of <i>Bag-e Dolat Abad</i> are not used any more.</li> <li>- Waterworks inside the garden are depreciated to some extent and need to be restored.</li> </ul>	<ul style="list-style-type: none"> <li>- Researches done about related fields by other organizations</li> <li>- Willingness of research institutes and universities to do research about the garden</li> <li>- <i>Dolat Abad</i> garden is a part of the cultural tourism plan of Yazd province.</li> <li>- Plans for reviving the authentic access route based on existing evidence and historical roads to the garden.</li> <li>- Other historical gardens of Yazd (like <i>Bagh-e Namir</i> in Taft and <i>Bagh-e Pahlavanpur</i> in Mehriz)</li> <li>- Ancient water resource (<i>Qanat-e Dolat Abad</i>) is in a condition that can be revived and utilized in the future. (Within a long-term plan)</li> <li>- The water well in the garden that is an important water resource for the</li> </ul>	<ul style="list-style-type: none"> <li>- Economical benefits of tourism</li> <li>- Visitor impacts in some seasons</li> <li>- Unsuitable new functions in neighboring areas</li> <li>- Urbanization effects</li> <li>- Gradual soil erosion due to development of agriculture in the surrounding area</li> <li>- Exploitation of underground water resources</li> </ul>

<p>yazd and Iran is in a good condition.</p> <ul style="list-style-type: none"> <li>- Waterworks inside the garden are authentic.</li> </ul>		<p>garden</p> <ul style="list-style-type: none"> <li>- Experienced gardeners and craftsmen living in Yazd</li> </ul>	
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***Bagh-e Pahlavanpur***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- Approved core and buffer zones regulations</li> <li>- Database of the garden is being prepared;</li> <li>- Regular documentations</li> <li>- Regular conservation and maintenance;</li> <li>- <i>Pahlavanpur</i> Garden is considered as an especial kind of garden because of its tower and fortification.</li> <li>- Original irrigation system and waterworks are being used in the garden;</li> <li>- The plants are authentic;</li> <li>- Regular monitoring program</li> <li>- Professional documentation of plants and trees that is underway</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of cooperation with related authorities;</li> <li>- Unsuitable functions in some buildings of the garden;</li> <li>- Some of the trees have been damaged due to environmental pressures ;</li> </ul>	<ul style="list-style-type: none"> <li>- The garden is adjacent to a neighborhood with natural and cultural values;</li> <li>- Existence of other outstanding Persian gardens in Yazd province, such as <i>Bagh-e Dolat</i> Abad and <i>Bagh-e Namir</i>;</li> <li>- Local universities with faculties related to professional needs of the garden.</li> <li>- Cultural importance of Yazd province;</li> <li>- Expert consultations provided by the National Base of Persian Garden</li> <li>- <i>Mirza Nasrollah</i> water mill in the buffer zone of the garden</li> <li>- Hasan Abad <i>Qanat</i> that is an important water resource of the garden</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing tendency to tourism and functions related to it;</li> <li>- Drought due to the climate of the region;</li> <li>- Strong regional winds</li> </ul>

***Bagh-e Akbariyeh***

<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>- The authenticity of pavilion and buildings of the garden has been preserved.</li> <li>- Approved core and buffer zones regulations</li> <li>- Regular monitoring conservation activities</li> <li>- Easy Access to site is possible.</li> <li>- Regular monitoring program</li> <li>- Documentation of plants has been performed</li> <li>- Most of garden plants are authentic</li> </ul>	<ul style="list-style-type: none"> <li>- Some spaces of the pavilion are without any specific functions.</li> <li>- Lack of a comprehensive database</li> <li>- Cultural values of the garden are not presented to different stakeholders and tourism sector.</li> <li>- Depreciation of historical waterworks inside the garden</li> </ul>	<ul style="list-style-type: none"> <li>- The research base and one of the offices of ICHHTO of Southern <i>Khorasan</i> is in the core zone of the garden.</li> <li>- Cultural and scientific meetings are held in <i>Bagh-e Akbariyeh</i></li> <li>- Sources of expertise are available (from the National Base of Persian Garden and local research centers and universities)</li> <li>- Existence of other outstanding Persian gardens in Birjand province</li> <li>- Local universities with faculties related to professional needs of the garden</li> <li>- The authentic irrigation system and waterworks can be used after restoration</li> </ul>	<ul style="list-style-type: none"> <li>- Gradual development of Birjand city</li> <li>- Constructing buildings in neighborhoods without any compatibility with architectural style of <i>Akbariyeh</i> village</li> <li>- Earthquake risk</li> <li>- Unawareness of local people about the garden's cultural values</li> <li>- Drought frequently occurring due to climate of the region</li> </ul>

• **Number of inhabitants within the properties**

There are no inhabitants within the gardens core zones except the staff of the bases but in *Bagh-e Dolat Abad*, there are five inhabitants living in the garden. In the buffer zones of the gardens, legal regulations control all constructive activities. In addition, thanks to the education and presentation programs enforced by each provincial base it has been tried to make local residents aware of the cultural significance of nominated gardens.

<b>Garden name</b>	<b>Inhabitants of the core zone</b>	<b>Inhabitants of the Buffer zone</b>	<b>Year of statistics</b>
<i>Pasargadae ancient garden</i>	No inhabitant except for the guards	186 inhabitants plus 2 schools	2009
<i>Bagh-e Eram</i>	No inhabitants except for Base staff	Approximately 1000 individuals	2009
<i>Bagh-e Chehel Sotun</i>	No inhabitants except for the Base staff	Approximately 5000	2009
<i>Bagh-e Fin</i>	No inhabitants except for the Base staff	4393 inhabitants	2009
<i>Bagh-e Abbas Abad</i>	No inhabitants except for the Base staff	No inhabitants but the Base staff	2009
<i>Bagh-e Shahzade</i>	No inhabitants except for the Base staff	No inhabitants but the Base staff	2009
<i>Bagh-e Dolat Abad</i>	5 inhabitants and the Base staff	Approximately 6000	2009
<i>Bagh-e Pahlavanpur</i>	No inhabitants except for the Base staff	Approximately 400	2009
<i>Bagh-e Akbariyeh</i>	No inhabitants except for 80 Base personnel	Approximately 90	2009

### 5. a. Ownership

Categories of ownerships in the nominated gardens are as follows:

*The Ancient garden of Pasargadae, Bagh-e Shahzadeh, Bagh-e Chehel Sotun, Bagh-e Abas Abad, Bagh-e pahlavanpur and Bagh-e Fin* are state properties (ICHHTO).

*Bagh-e Eram* is also a state property (University Of Shiraz).

*Bag-e Dolat Abad and Bag-e Akbariyeh* are owned by *waqf*<sup>1</sup> organization. At present ICHHTO of Southern Khorasan has the authority over the *Bag-e-Akbariyeh*.

garden	State property	Wagf
<i>The Ancient Garden of Pasargadae</i>		
<i>Bagh-e Eram</i>		
<i>Bagh-e Chehel Sotun</i>		
<i>Bagh-e Fin</i>		
<i>Bagh-e Abas Abad,</i>		
<i>Bagh-e Shahzade</i>		
<i>Bagh-e Dolat Abad</i>		
<i>Bgh-e Pahlavanpur</i>		
<i>Bagh-e Akbariyeh</i>		

Fig.5-1.Ownership state of the property

### 5. b. Protective designation

The national and international laws, regulations and constitutions to preserve and support the property:

The nominated Historical gardens of Iran have been registered in the list of Iran's national monuments with the numbers mentioned bellow:

*The Ancient garden of Pasargadae* was inscribed with no. 19 in 1931

*Bagh-e Eram* was inscribed with no. 1013 in 1974

*Bagh-e Chehel Sotun* was inscribed with no108 in 1932

*Bagh-e Fin* was inscribed with no. 238 in 1935

*Bagh-e Abas Abad, Behshahr* was inscribed with no745 in 1967

<sup>1</sup> the Endowment and Charity Affairs Organization



*Bagh-e Shahzade*, Mahan was inscribed with no. 1012 in 1975

*Bagh-e Dolat Abad* was inscribed with no. 774 in 1967.

*Bagh-e Pahlavanpur* was inscribed with no 6334 in 2003

*Bagh-e Akbariyeh*, Birjand was inscribed with no. 2326 in 1999

Therefore, they are under the below mentioned legal supports:

By registering historical gardens of Iran on the National Heritage List of Iran, this property enjoys special protection and conservation legislation.

### **Cultural and Natural Heritage Laws in Iran:**

There are different laws and regulations for protection and conservation of cultural heritage in Iran. These are in the following broad categories:

- Legislation governing general cases in the country, including cultural heritage;
- Legislation specifically concerning cultural heritage;
- Legislation specifically concerning natural heritage;
- International legal instruments, recommendations and guidelines that are integrated within the national legislation.

### **General Regulation:**

Samples of the general laws and regulations relevant to cultural heritage include, inter alia:

1. Article 83 of the Constitution Law of Islamic Republic of Iran (1920) recognizes the importance of cultural properties. Transferring the ownership of public monuments and properties considered to be part of the national heritage is forbidden, unless approved by the Parliament. However, transfer of ownership of monuments and cultural properties officially recognized as insignificant is possible.
2. Article (26) of the Iranian Civil Law (1939) prohibits private ownership of significant cultural property.
3. The Islamic Penal Law is an effective law for practical protection of cultural heritage. A full chapter deals with crimes regarding cultural heritage (from Article 588-569) in the Islamic Penal Law, (1996). This law recognizes the following as a crime subject to punishment:
  - Damaging, theft, selling or buying stolen historical property (Article 559);

- Violation of the regulations of ICHHTO resulting in deterioration, defect, or damage in the heritage property (Article 560);
  - Illicit export or smuggle of heritage property (Article 561);
  - Any unauthorized excavation in an effort to find historical properties (Article 562.1);
  - Selling or buying properties discovered from unauthorized excavations (Article 562.2);
  - Encroachment on historical or religious land, property or sites registered on the National Heritage List with no private ownership (Article 563);
  - Restoration, repair, converting, renovation and extension of cultural or historical monuments or their decoration, registered on the National Heritage List without the ICHHTO approval (Article 564);
  - Transferring parts of immovable properties registered on the National Heritage List without the ICHHTO consent (Article 565).
  - Converting the functions of monuments and sites registered on the National Heritage List denigrating the identity of the property and/or without ICHHTO consent.
4. The Law for Punishment of Those Interfering in the National Economic System (1991), article (1), paragraph d, considers any effort towards export of national property, even though not successful, a crime. All such property intended for export is confiscated.
  5. Property acquisition law for implementing public development and military projects of the Government (1979) allows the acquisition of any historic property, in case a project is prepared for this property. This law has a streamlined procedure, which also guarantees the rights of the private owners.

**Specific Regulation for Cultural Heritage:**

Samples of the regulations specifically dealing with cultural heritage are explained below:

1. The Law for Protection of National Heritage (1930) is the first comprehensive law concerning various aspects cultural heritage. This Law defines the procedure for identification of cultural heritage property (Article 1). It further mandates the Government to prepare a National Heritage List (Article 2), sets the criteria and legal protection for properties on this List, and stipulates legal provisions for archaeological excavations.

2. The Bylaw Concerning Prevention of Unauthorized Excavation (1980) stipulates punishments for excavation and/or purchase of excavated historic objects. The provisions of this Law are further elaborated in the Islamic Penal Law mentioned above. There is further regulation limiting production, purchase, use or advertisement of metal detectors.
3. The Law Concerning Acquisition of Land, Building and Premises for Protection of Historic Properties (1969) stipulates further regulations for acquiring property with historic or cultural significance.
4. The Law for Establishing Iranian Cultural Heritage Organization (1979) is another powerful legal instrument depicting a comprehensive picture for managing cultural heritage of the country.
5. The Law for Establishing the Higher Council for Architecture and Urban Planning (1987), which concerns with both cultural and natural heritage.

#### **– Higher Council for Architecture and Urban Planning [HCAUP]**

All urban plans in Iran should be confirmed by Higher Council for Architecture and Urban Planning [HCAUP], before their approval.

Higher Council for Architecture and Urban Planning (HCAUP) was established under the law of February 1973. Ministry of Housing and Urban Development [MHUD] is responsible for managing housing development as well as for developing master plans for urban and semi-urban areas. This includes the historic urban areas, where a large proportion of the Iranian cultural heritage is located. The HCAUP is presided by the Minister of MHUD. The Deputy Minister for Urban Development and Architecture is the Secretary of HCAUP, under whom a Director-General manages the Secretariat. Other members of HCAUP include the Ministers of Interior; Economy and Finance; Culture and Islamic Guidance; Education; Power; Jihad Agriculture; and Defence.

In addition to these ministers, three Vice-Presidents are voting members of the HCAUP: (i) Head of Management and Planning Organization, (ii) Head of ICHHTO, and (iii) Head of Department of Environment. HCAUP has four main functions:

- Overall urban development policies.
- Commenting on by-laws affecting zoning, land use, and determining main functions;
- Adoption of urban master plans; and
- Adoption of urban criteria, regulations, by-laws, etc.

The approval of master plans by HCAUP has an established process. A qualified consultant is commissioned by the provincial Housing and Urban Development Organization (HUDO), which is the provincial office of MHUD. After the plan is prepared must be approved by The Provincial Planning Council. It is then reviewed concurrently by the HCAUP’s technical committee and the office of Physical Plans at MHUD, before final submission to HCAUP. The figure below shows the procedure for approval of physical plans by HCAUP.

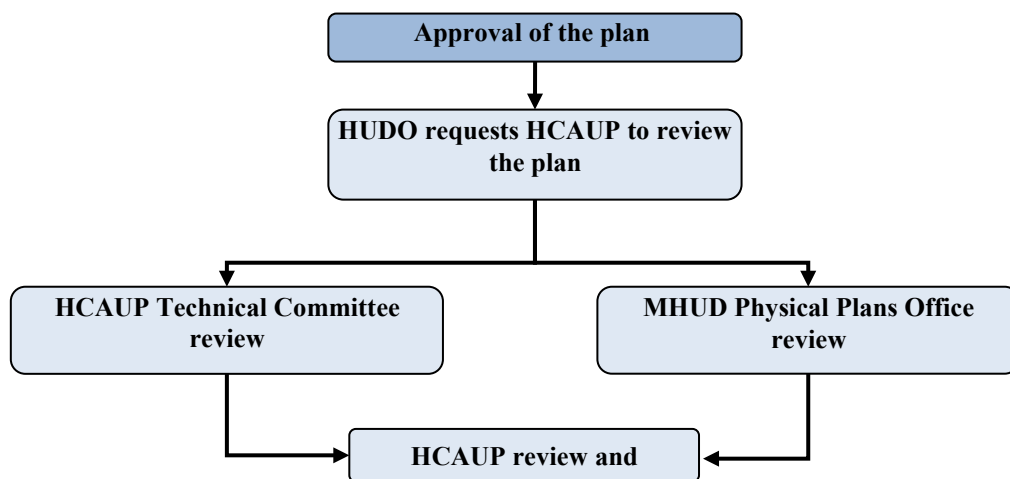


Fig.5-2. The procedure for approval of development plans by *HCAUP*

In principle, HCAUP does not examine the detailed plans. Such plans, as well as modifications which do not essentially change the existing Master Plan, are adopted by a commission presided by the provincial or county governor-general, head of City Council, Mayor, representatives of MHUD and some other ministries and (also called Commission for Article 5). The Secretariat of Commission for Article 5 is established at HUDO. In case of Persian gardens which are located in urban fabrics, the Commission for Article 5 in provinces is responsible for adopting urban development control regulations.

**Specific Regulation for natural recourses:**

1. Article 50 of the Constitution Law of Islamic Republic of Iran (1920) recognizes the importance of natural properties. Any development activity that damages natural resources is prohibited.
2. The environmental conservation act (1974) is about responsibilities and authorizations of High Council of Environmental Conservation.
3. The act for conservation and promotion of green spaces in urban areas (1980). This act is about the necessity of documentation of trees and protection of gardens and parks in urban areas.
  - In order to protect the green space in urban areas and to prevent fell of trees city councils are supposed to approve regulations (Article 1).
  - Municipalities are supposed to perform a comprehensive documentation of trees, once in every five years (Article 2).
4. The Law for establishing the committee for decreasing impacts of natural disasters (1991).
  - According to this Act, the National Committee for decreasing impacts of natural disasters is responsible of doing research about solutions of decreasing the affects of natural disasters such as flood, drought, air pollution, pests, earthquake and etc.
5. The Act for protecting forests and natural recourses of Iran (1992).
  - According to this Act, some particular kinds of trees like, Thuya Orientalis, Evonymus Jponica, yew tree, Chandal, Savin tree, Hazelnut tree, Olive tree, Persian turpentine tree, Gavan, Walnut tree and Almond tree are considered as national natural recourses and should be preserved.
6. The Islamic Penal Law (1997), Articles 675,679,680, 686, 688, 689, 690, 691 and 696 are concerned crime subjects and punishments related to natural recourses.

**International Legal Instruments:**

In the I.R. of Iran, the requirements of any international convention are integrated with the national legislation, upon accession to that international convention. Thereafter, it will be compulsory to abide with the requirements of these conventions. The I. R. of Iran has acceded to several *UNESCO* conventions concerning the conservation and protection of

cultural heritage, as well as other conventions and charters. Some of important conventions

which are acceded by the I. R. Iran include, inter alia:

1. Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)
2. Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1954) and its Protocol I (1954) and Protocol II (1999)
3. Convention for the Safeguarding of the Intangible Cultural Heritage (2003)
4. The Florence charter about historic gardens (1981)

### **Other Regulations:**

In addition to the legal instruments mentioned above, there are other types of regulations for protection and conservation of cultural and historic property in the I. R. of Iran. For example, according to a cabinet decision adopted in 2001, all public organizations must conduct studies to assess the cultural/historic impacts of major development projects at the earliest feasibility study stage and to comply with the recommendations of such studies during design and implementation.

### **Core and buffer zone regulations of the nine nominated gardens:**

#### *Ancient Garden of Pasargadae*

##### Core zone Regulation

- 1-Any kind of intervention is forbidden.
- 2-All operations pertaining to conservation, research and presentation must be approved by ICHHTO.

##### Buffer zone

- 1-Any activity such as mountain cutting, tree planting, farming, installing poles and the like as well as any activity leading to transformation of historical or natural topological hills is strictly prohibited.
- 2-Tree planting and land possessing activities are prohibited.
- 3-Any kind of intervention must be initially approved by ICHHTO

4-Unharmonious buildings standing inside the buffer zone must be demolished when deemed necessary.

5-Digging canal branches for supplying water to farmlands is only permitted after their routes have been defined by ICHHTO experts under their supervision.

### ***Bagh-e Eram***

#### Core zone

1-Intervention and possession of any kind is prohibited.

2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.

3-New branching of spring source or *Qanats* water linked to the garden is prohibited.

4-Digging any cesspits harming underground tables and *Qanats* are not allowed.

5-Any intervention altering the authenticity and integrity of garden is not allowed.

#### Buffer Zone A

1-Maximum permitted height of buildings within the buffer zone A must not surpass 8.5m from the floor of the walkway upon which the entrance stands.

2-Buildings constructed within the buffer zone A without respecting above mentioned principles must be reconstructed with respect of them when their usable lifetime expires.

3-Any change into commercial, administrative, medical or service functions within the buffer zone A is not allowed.

4-Construction in properties adjacent to the monument must be done by keeping a distance of five meters from the garden wall.

#### Buffer Zone B

1-Buildings standing inside buffer zone B must be stabilized in their current form and no new constructions are allowed without the permission of ICHHTO.

2-Tree cutting of any kind is forbidden.

According to articles 558-569 of the fifth book of Islamic punishment laws, respecting specified regulations is obligatory and any infringements will be prosecuted.

### ***Bagh-e Chehel Sotun***

#### Core zone

- 1-Intervention of any kind is prohibited.
- 2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.
- 3-New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4-Digging any cesspits harming underground tables and *Qanats* is not allowed.
- 5-Any intervention altering the authenticity and integrity of garden is not allowed.

#### Buffer zone

The buffer zone line of *Bagh-e-Chehel Sotun* is part of the historical-cultural axis of Isfahan approved in the urban master plan of 1372 SAH

- 1-Valuable houses and buildings must be restored and conserved with the permission of ICHHTO.
- 2-Fadan, Joshah and Farshadi *Madies* must be preserved, and digging water wells or cesspits on their course is forbidden.
- 3-Revitalization of Abbasi Chaharbagh Gardens should be included within long term plans.
- 4-Any division or functional change of Khargah and Hasht-behesht gardens is forbidden.
- 5-Operations polluting streams, underground tables and *Madies* are prohibited.
- 6-Tree cutting inside the complex is forbidden.
- 7-Maximum height of buildings must not surpass 7.5m.
- 8-Any urbanization plan must be approved by ICHHTO.

### ***Bagh-e Fin***

#### Core zone

- 1-Intervention of any kind is prohibited.
- 2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.
- 3-New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4-Digging any cesspits harming under ground tables and *Qanats* is not allowed.



5-Any intervention altering the authenticity and integrity of garden plants, water or architecture is not allowed.

#### Buffer zone A

1-valuable buildings including watermills, old religious buildings, etc must be preserved in their present condition.

2-Digging deep or semi-deep wells on the upstream of the historical spring of Soleymanieh is prohibited.

3-Digging any cesspits upon the route of *Qanats* and waterworks of Soleymanieh spring is forbidden.

4-Digging any deep cesspits harming underground tables is not allowed.

5-Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of ICHHTO.

6-Any activity resulting in the damage or pollution of the route of water supplying network branched off Soleymanieh spring and its water dividers is forbidden.

7-Any division or functional change of gardens or agricultural lands is forbidden.

8-New constructions are only allowed within the framework of cultural activities of ICHHTO fulfilling the following conditions:

A) Maximum permitted height of new buildings should be one floor or 4.5m above the ground floor level.

B) Their façade must be in harmony with indigenous architecture.

9- Tree cutting in the buffer zone is forbidden.

#### Buffer zone B

1-Articles 1,2,3,4 and 5 mentioned earlier about Zone A also apply to Zone B and must be respected.

2-Any activity resulting in damaging, polluting and directing wastewaters towards floodways and into the route of water supplying network branched off Soleymanieh spring is forbidden

3-Construction of residential houses in highlands located at the upper part of the highway as well as the upstream of the historical spring of Soleymanieh is prohibited.

4-Construction of non-residential buildings within the framework of nationally approved development plans at the upper part of Isfahan -Qom freeway as well as the upstream of the

historical spring of Soleymanieh should respect the entire environmental and cultural heritage regulations as well as relevant standards and technical principles.

5-Within the lower part of Isfahan-Qom freeway (inside the fabric of Fin-e kochak) construction of buildings is only allowed if: no tree cutting is done, they are not more than two floors, their maximum occupation of garden grounds must be 10% and their construction maps are confirmed by relevant experts (with the exception of buffer zones of cases already registered or in the process of being registered)

6-Maximum permitted height of residential houses built in the lower part of Isfahan-Qom freeway (inside the fabric of Fin-e kochak) is three floors

7-New constructions within the buffer zone must not lead to alteration or destruction of the route of *Qanats*, flood walls, underground water tables water supplying network branched off Soleymanieh spring, historical passageways or open spaces with visual values.

8-Conservation and reconstruction of damaged parts of the flood wall must be conducted according to specified technical principles and standard after acquiring the permission of ICHHTO.

### ***Bagh-e Abbas Abad***

#### Core zone

1-Intervention and possession of any kind is prohibited.

2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.

3-Usage of heavy vibrating or environmental polluting instruments such as acoustic polluters, etc is prohibited.

4-Any intervention altering the authenticity and integrity of the monument is strictly prohibited

#### Buffer zone

1-All programs and plans must obtain formal permission from ICHHTO (Base of *Bagh-e Abbas-abad*) before any further action.

2-Construction of buildings within the buffer zone of the garden is only allowed if they respect the height limit (a maximum height of 5.5m or one floor)

3-The building must be constructed in a spot not altering the landscape of *Abbas-abad* Garden.

4-Façade designing must be done adopting traditional patterns and indigenous materials in harmony with natural surroundings.

5-Any developing, transforming or leveling plan for constructional projects or for infrastructural facilities such as electricity, water supply, sewage system etc...must obtain formal permission from ICHHTO (Base of *Bagh-e Abbas-abad*) before taking any action.

### ***Bagh-e Shahzadeh***

#### Core zone

1-Intervention and possession of any kind is prohibited.

2- All operations pertaining to restoration and conservation must be first approved by ICHHTO.

3-Usage of heavy vibrating or environmental polluting instruments such as acoustic polluters, etc is prohibited.

4-Any intervention altering the authenticity and integrity of the monument is strictly prohibited.

#### Buffer zone

1-Intervention, alteration or construction of any kind inside the natural riverbed, *Qanat*, vegetation and natural topography within the buffer zone of the monument is prohibited

2-Because the garden existing within the buffer zone (*Seyed Hosein Garden*) has historical-architectural values, it must get under conservation, restoration and stabilization in its existing form. After compiling the restoring and reorganizing plan, it must be first approved by ICHHTO.

3-New branching of spring source or *Qanats* water linked to the garden is prohibited.

4-Water usage after its exit from the garden and its buffer zone is allowed but only for regional gardening and farming purposes.

5-In order to maintain the natural landscape as well as environmental values, any construction activity, setting up communication poles, cutting trees, destructing or changing the course of surface waters (streams and springs), etc. must initially be confirmed and approved by CHHTO

6-Keeping and continuing farmlands, gardens and green spaces in their present condition is obligatory

7-Any division or functional change of gardens or agricultural lands is forbidden

8-Any activity within the buffer zone hurting its core zone or arena is prohibited such as traffic of heavy motor vehicles, installment of noisy, vibrating and air polluting machinery, digging wells and canals, excavating as well as directing surface waters towards the core zone of the monuments.

### ***Bagh-e Dolat Abad***

Buffer zone

1-Restoration and conservation of valuable buildings including cisterns, old religious buildings, etc must be first approved by ICHHTO and if necessary an appropriate function in harmony with the fabric be allocated to them.

2-Digging deep or semi-deep wells on the upstream of the garden is prohibited.

3-Digging any cesspits harming underground tables and *Qanats* is not allowed.

4-Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of ICHHTO

5-Any division or functional change of gardens or agricultural lands is forbidden.

6-Any new constructions must be first approved by ICHHTO within the following regulations.

-Maximum permitted height of buildings is one floor or 4.5m.

-Architectural pattern should match indigenous architecture

-Tree cutting in the buffer zone is forbidden.

### ***Bagh-e Pahlavanpur***

Core zone

1-Intervention of any kind is prohibited.

2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.

3-New branching of spring source or *Qanat* water linked to the garden is prohibited.

4-Digging any cesspits harming underground tables and *Qanats* is not allowed because wastewater leakage from them might pollute waters

5-Any action altering the authenticity and integrity of garden plants, water and architecture is not allowed.

#### Buffer zone

1-Restoration and conservation of valuable buildings including existing water mills must be conducted under the supervision of ICHHTO.

2-Digging deep or semi-deep wells on the upstream of the historical spring of Hasan-abad is prohibited.

3-Digging any cesspits which damage or pollute *Qanat* routes and water supply networks of Hasan-abad spring is prohibited.

4-Digging any deep cesspits harming underground tables is not allowed.

5-Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of ICHHTO.

6-Any division or functional change of gardens or agricultural lands is forbidden.

### ***Bagh-e Akbariyeh***

#### Core zone

1-Intervention of any kind is prohibited.

2-All operations pertaining to restoration and conservation must be first approved by ICHHTO.

3-Any intervention altering the authenticity and integrity of the monument is strictly prohibited

#### Buffer zone

1-Conservation, restoration and any functional change of valuable historical buildings must be first approved by ICHHTO.

2-Digging wells on *Qanat* path is prohibited.

3-Producing any pollution, digging deep wells or a sewage system harming underground tables is not allowed.

4-Any new constructions must be first approved by ICHHTO.

5-Maximum permitted height of buildings is one floor or 4.5m

6-Materials used for buildings construction must be in harmony with the historical building and its surrounding fabric.

**5. c. Means of implementing protective regulations:**

The Cultural Heritage, Handicrafts, and Tourism Organization has the authority of conservation and protection of all the artistic, historical and cultural monuments, Sites and Gardens according to civil law.

According to law, all the governmental and nongovernmental organizations as well as all the citizens in all parts of the country must obey the law and follow the regulations related to all kinds of movable and immovable properties presented by the Cultural Heritage Organization. Since the entire nominated gardens are under legal protection of ICHHTO, all interventions related to them needs to be approved by ICHHTO. Deputy for Conservation, Revitalization & inscription that is a sub sector of ICHHTO is responsible for supervising the management of the nominated property.

The National Base the Persian garden as the responsible establishment for supervising provincial bases is a sub-sector of the deputy of cultural heritage. The chart below shows the position of this base in the ICHHTO.

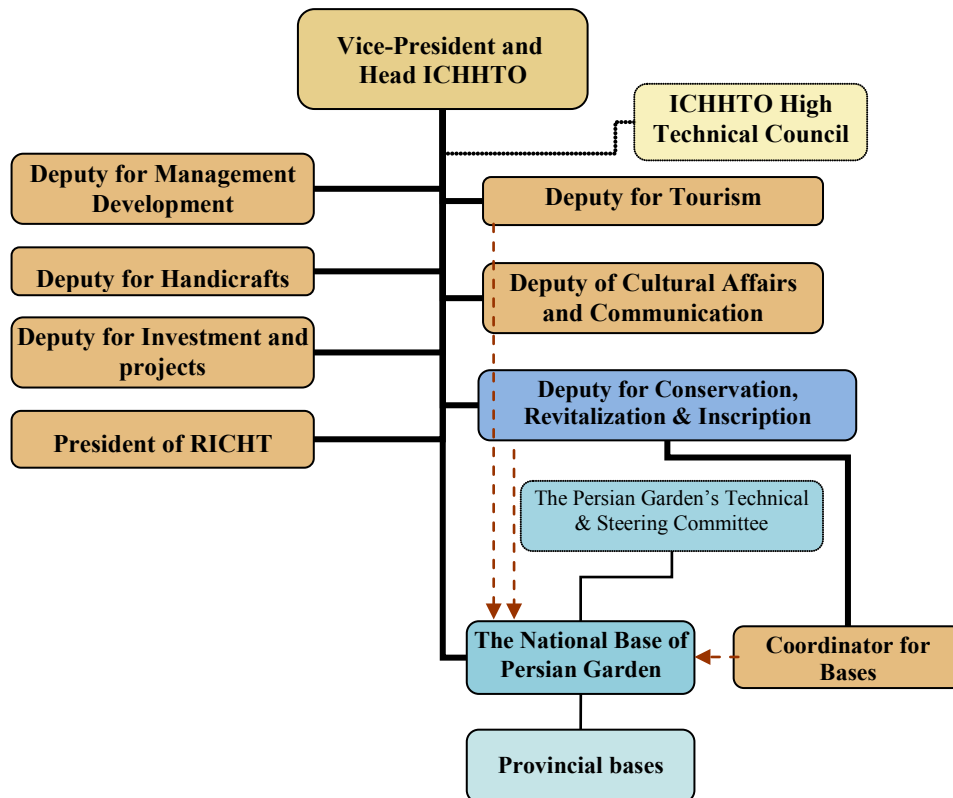


Fig.5-3. position of the Base of Persian Garden in the ICHHTO

**Supervisory systems:**

The Nine Nominated Persian gardens benefit from supervision system, described below.

The National Base of Persian garden:

Since the nominated property is a serial property, all of the gardens should be managed under an effective and overall management system. The National Base of Persian garden which is a sub-sector of the Deputy for Conservation, Revitalization & Inscription is established with the purpose of linking conservation and protective activities in historic gardens of Iran which are nominated to the world heritage list. Strategies of the National Base of Persian garden are determined by regular consultations with the technical & steering committee of Persian gardens which is consisted of experts from different nominated gardens.

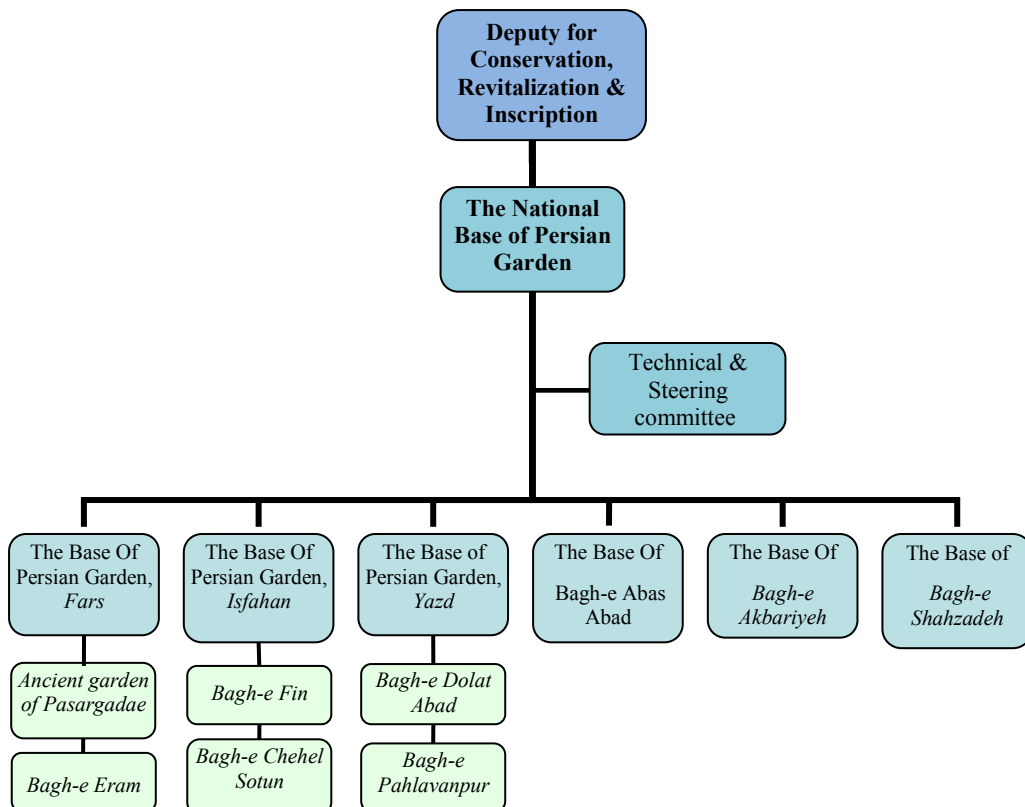


Fig.5-4.The Persian garden’s Management chart



**Responsibilities of the National Base of Persian are to:**

- Supervise, Evaluate and control the management system of the whole property.
- Ensure and encourage participation of stakeholders.
- Distribute sources of national finance to provincial bases.
- Observe existing and new development plans that influence the property.
- Prepare guidelines for research about other Persian gardens
- Support the providing of expert consultations for the provincial bases.
- Support collecting existing information about historic gardens of Iran and share it with provincial bases of Persian garden.
- Support regular documentation.
- Support Equipping tourism route of historic gardens of Iran.
- Support the presentation and promotion activities.
- Create a database for the Persian garden.
- Support the bases to Collaborate with universities and research institutes.
- Support Publication of experiences in conservation and management fields.
- Specify relevant strategies for managing the tourism impacts.
- Support holding discussion sessions with all stakeholders.

**Names of Local and regional management contacts:**

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**5. d. Existing plans related to municipality and region in which the proposed property is located (e.g., regional or local plan, conservation plan, tourism development plan).**

*Bagh-e Abas Abad, Bagh-e Shahzade and the Ancient garden of Pasargadae* are not located in urban areas therefore no municipality plan affects them.

As mentioned before, all urban plans in Iran should be confirmed by Higher Council for Architecture and Urban Planning [HCAUP], before their approval<sup>2</sup>.

Master plan of each city is confirmed by the Higher Council for Architecture and Urban Planning [HCAUP] in which an ICHHTO's representative has membership.

*The Ancient garden of Pasargadae:*

Master plan of Parseh- Pasargadae cultural region that was prepared by Par house consultant engineers in 2003 is the most important plan affecting the nominated property. The cultural significance of the *Pasargadae* world heritage site is considered in this master plan.

*Bagh-e Eram:*

Master plan of Shiraz was prepared by Prdaz Raz consultant engineers in 1993. this master plan is prepared with due consideration of the core and buffer zones boundary of the *Bagh-e Eram*.

*Bagh-e Chehel Sotun:*

The master plan of Isfahan and the regeneration plan of the historical area of Isfahan both were prepared by Naghsh-e Jahan Pars consultant engineers in 1993. in this plans, *Bagh-e Chehel Sotun* is located in the protected historical area of the Isfahan city.

*Bagh-e Fin:*

The master plan of Kashan is being prepared considering the historical area of the Fin. this plan is being prepared by Naghsh-e Jahan Pars consultant engineers since 2003.

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<sup>2</sup> Refer to Fig.5-2. The procedure for approval of development plans by HCAUP

*Bagh-e Abas Abad, Behshahr:*

Regeneration and revitalization plan of Abas Abad historical complex ,prepared by Nazar research center in 2004.this plan is based on historical and cultural importance of the *Bagh-e Abas Abad*.

*Bagh-e Dolat Abad:*

Master plan of Yazd was prepared by Arseh consultant engineers in 2002 and the regeneration plan of Yazd's historical center which was prepared by Arman-Shahr consultants, are proved plans for Yazd city. The plan of Yazd's historical center is prepared with the aim of protecting historical monuments of Yazd and *Bagh-e Dolat Abad* is one of the most important historical places of the city.

*Bagh-e Pahlavanpur:*

The Master plan of the city of Mehriz is prepared by ShahrSaz Va Abniyeh consultants in 2006 and also regeneration plan of historic area of Mehriz that prepared by ShahrSaz Va Abniyeh consultants in 2006. the new master plan of Mehriz that is being prepared by Amin consultants. The regeneration plan of historical area of Mehriz is prepared with respect to *Bagh-e Pahlavanpur*'s core and buffer zones regulations.

*Bagh-e Akbariyeh:*

The master plan of Brijand city was prepared by Zista consultant engineers in 1999 and regeneration plan of the historical area of the city is prepared by research center of ICHHTO based in Birjand. In the regeneration plan of the historical area of Birjand protective regulation of core and buffer zone of the *Bagh-e Akbariyeh* garden has been included.

**5. e. Property management plan or other management system**

The National Base of Persian garden is the authority responsible for managing the entire nominated property<sup>3</sup>. Since each provincial base is a sub-sector of The National Base of Persian garden, the assurance of effective implementation of each base's management system is within the duties of the National base of Persian garden.

The chart below shows the management system of the six provincial bases:

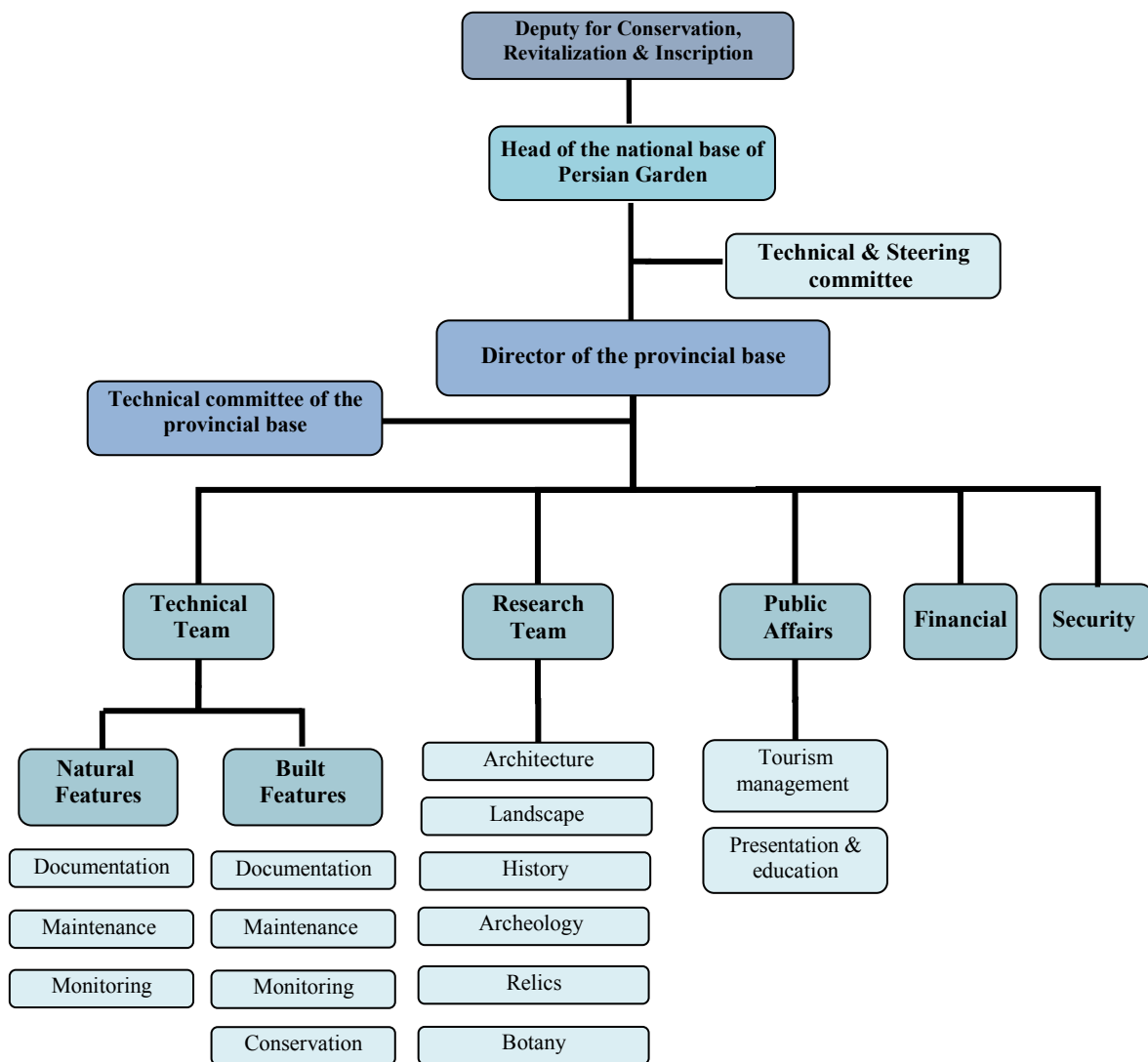


Fig.5-5.The Management chart of provincial bases of the Persian garden

<sup>3</sup> For more information about the National Base, refer Fig.5-4. This document

The map below shows the location of six provincial bases that manage the nine nominated gardens.



Fig.5-6.nine nominated gardens managed by six provincial bases which are under supervision of the National base of Persian garden

The National Base of Persian Garden is in charge of the following objectives of the management system by determining conservation strategies for the entire property.

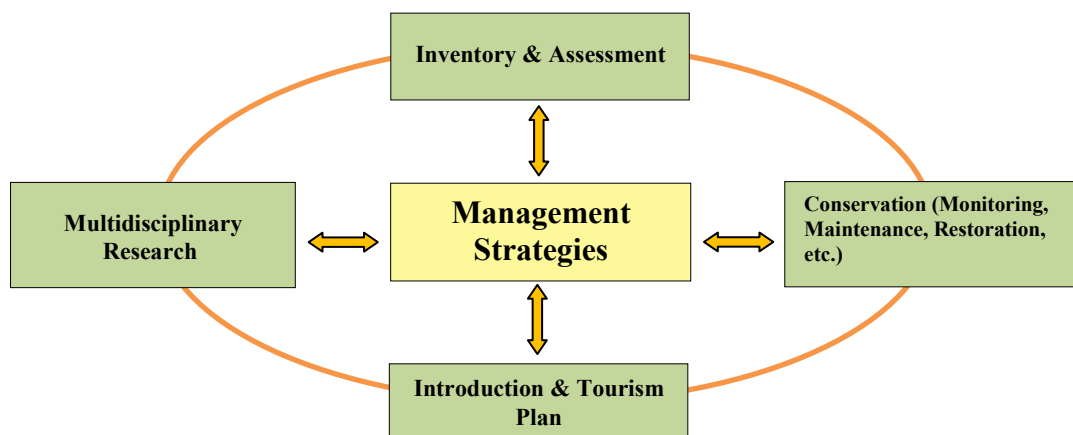


Fig.5-7.Diagram of the Persian Garden management strategies

**The mission of the Management Plan is to:**

Preserve the outstanding universal values of the Persian Garden.

**Strategies to achieve the overall mission are to:**

- Coordinate conservation activities in different gardens by executing an integrated management system;
- Ensure and encourage participation of stakeholders;
- Regulate and manage monitoring and documentation in all gardens;
- Support Risk preparedness programs in provincial bases;
- Promote Research projects in related fields such as:
  - Manners of Sustainable utilization of water resources of the gardens.
  - Botanical and geological research.
  - Architectural styles in built heritage of the gardens;
  - Preserving diversity of plant kinds in different gardens;
- Contact relevant organizations;
- Expand presentation and educational activities in order to increase public awareness;
- Balance tourism demands in different regions of the property by:
  - Controlling tourism affects upon gardens that suffer from visitor pressure;
  - Moderating tourism impact in regions with high tourist demands.

**Management objectives in each of the nominated gardens:**

Short-term (2 years), mid-term (5 years) and long-term (10 years) objectives of provincial bases are as follows:

– **The Base Of Persian Garden, Fars:**

*The Ancient garden of Pasargadae*

Short- term objectives are to:

- Research activities about the historical course of *Bagh-e Shahi* and its linkage with other places in the WHS area;
- Photogrametric survey of the palace P;
- Photogrametric survey and geo physical research of pavilions and stone water courses;
- Removal of weeds and pruning *Bagh-e Shahi*;

Mid- term objectives are to:

- Continued research activities on the historical course of *Bagh-e Shahi* and linking it with other places;
- Continued geophysical research on ancient courses of water circulation in the *Bagh-e Shahi* and other related parts;
- Reveal and reinterpret the structures observed in geophysical maps;
- Do botanic and archaeological studies on plant species of the *Baghe Shahi*;
- Conservation of stone water courses;
- Conservation of palace and pavilions;
- Conservation of residential palace columns;
- Conservation of residential palace inscriptions;
- Revision of documentations.

Long- term objectives are to:

- Completion of research activities of the historical course of the *Bagh-e Shahi* and its relationship with other palaces;
- Completion of the geophysical activities on the garden;
- Completion of the studies of historical courses of conducting water in *Bagh-e Shahi* and other related parts.



*Bagh-e Eram, Shiraz*

Short- term objectives are to:

- Documentation, collection and completion of all data;
- Make and equip the data base of the garden.
- Program to represent the garden by publishing catalogues and etc.
- Cooperation with various organizations and determine the extent of their cooperation;
- Maintain monitoring and conservation activities based on approved budget;
- Improve the research centre of the base;
- Hold training courses to educate local professional personnel;
- Supervise and hold meetings with urban and local authorities to observe development plans;
- Conduct university researches toward the needs and use local knowledge and promote it both in quality and quantity.

Mid- term objectives are to:

- Collect the data related to actions done to protect plant species;
- Provide yearly reports of monitoring activities;
- Reorganize the eastern part of the garden based on authentic documents.
- Improve the modern installations, respecting the visual integrity of the garden.

Long- term objectives are to:

- Promote educational level of the local craftsmen;
- Improve the techniques of gardening and maintenance of the garden;
- Reorganize the eastern part of the garden according to the original design of the Persian Garden.

– **The Base Of Persian Garden, Isfahan:**

*Bagh-e Chehel Sotun*, Isfahan

Short- term objectives are to:

- Move official function to the second floor of the building to enable visitors to see all parts of the garden;
- Remove additional panels and tools that blocks the view of visitors to the pavilion;
- Restore and rehabilitate the water courses around the building;
- Improve visitor facilities in the garden;
- Keep Pahlavi period wall as a document of a historical era;
- Improve lightening facilities;
- Form a committee consisted of representatives of Cultural Heritage, Municipality, Governorship and representatives of other related organizations to increase the speed of executive affairs and coordination;
- Rehabilitate the western pool of the building;
- Plan a comprehensive introduction of the *Chehel Sotun*;
- Train skilled tour guides;
- Prepare a 3D model of the garden and install it in the suitable places;
- Publish presentation catalogues;
- Hold training workshops for the students;
- Hold training courses with collaboration of skilled craftsmen in the garden;
- Collaborate with universities, research centres, experts; outstanding craftsmen and education department;
- Hold weekly meetings;
- Facilitate the axis from *Naghshe Jahan* toward *Chehel Sotun*;
- Maintain documentation and research programs.

Mid- term objectives are to:

- Rehabilitate *Madi*<sup>4</sup> courses as the natural side walk and local green spaces;
- Keep the present *Pahlavi* era built heritage in Sepah street)
- Cooperate with education deputy and plan to present the building in different training courses;
- Make a strong relationships with scientific institutes;

Long- term objectives are to:

- Alter unsuitable functions around the garden;
- Rehabilitate the streets around the garden to reconnect the garden to its historical context;
- Rehabilitate the *Dolatkhaneh* and *Shahi* courses;
- Open western part of the garden to public and direct visitors from *Darvazeh Dolat* toward the garden to serve as a connection between *Chahar bagh* and *Naghshe Jahan*
- Take the possession of some parts of the building that governorship has occupied;
- Move the auto parking lot behind the western part of the garden.
- Design the wall of the garden according to its original form as in historical documents;

### *Bagh-e Fin, Kashan*

Short-term objectives are to:

- Improve the document center of the base;
- Improve the monitoring center;
- Study pathology and present plans to prevent drying the plant coverage of the garden;
- Review the present development plants affecting the universal value of the property;
- Do research aimed at improving conservation activities;
- Finalize the semi-finished projects in the garden (museum, sanitation services, parking);
- Organize the tourist circulation in the garden;

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<sup>4</sup> *Madies* are uncovered water canals in the historical city of Isfahan.

- Improve electrical and security facilities of the garden, considering the visual integrity;
- Continued maintenance and conservation of plants;
- Continued researches related to plants;
- Continued research on waterworks.

Mid-term objectives are to:

- Complete the documentation of system, pavilions and context of the garden;
- Cooperate with Municipality and related organizations to organize the traffic around the garden;
- Prevent the traffic entering the garden's buffer zone and determine the limits of the side walk near the garden;
- Train the garden employees;
- Train the guards and security units;
- Open the anthropology museum in the garden;
- Reform the installations in the buffer zone;
- Improve visitor facilities;
- Reorganize visual appearance of the constructions in the buffer zone;
- Rehabilitate former applications such as the mills;
- Do research on the manner of distributing the water of Soleymaniye fountain, on the sanctity of the water and on ceremonies of fin residents from distant past up to now.
- Reorganize the parking area near the garden.

Long-term objectives are to:

- Hold research and scientific conferences related to the garden;
- Promote the relationship between presentation team with schools and other centers to improve education and presentation quality;
- Prepare the background for participation of universities, high education centers and scientific research center in different fields through conducting the research programs and research contractions with comorting and objective bodies;
- Publish the results of the actions done by the research center of the base;
- Improve facilities of the base;

- Do archeological excavation in the old garden and revitalize the garden.

– ***The Base Of Bagh-e Abas Abad, Behshahr, Mazandaran***

Short-term objectives are to:

- Protect and preserve excavated areas in the archeological site;
- Improve the areas which inappropriate interventions in them;
- Improve visitor facilities
- Reinforcement of stone walls of the main garden;
- Continued the archeological research in the main garden;
- Continued the conservation activities on the main garden area;
- Prepare a 3d model of the garden;
- Restore the pavements of the garden;
- Reinforce the *Hammam* (bath house) ruins;
- Provide a temporary parking near the site;
- Improving the visual situation of the area near the safavids dam;
- Remove the weed from safavids dam;
- Install guide signboards in the site;
- Design a site museum to exhibit the discovered objects;
- Remove unwanted plants from the top of the *Char Taghi*;
- Improve the access between different parts of the site.

Mid-term objectives are to:

- Restore the irrigation system in damaged parts;
- Improve visitor facilities;
- Train visitor guides;
- Hold exhibition and meetings in the base of *Bagh-e Abas Abad*;
- Research on the function of the building known as palace;
- Make a 3d model of the above mentioned building;
- More methodical research about the function of towers of the garden;
- Continued conservation activities on the towers;

- Facilitate the site for natural tourism;
- Prepare car parking places for visitors;
- Prepare a visitor management plan considering the special conditions of the garden.

Long -term objectives are to:

- Take possession of the area that now belongs to military;
- Conduct archeological research in the buffer zone of the site in order to discover and reveal possible hidden structures;
- Restore the wooden bridge to *Char Taghi*;
- Continued conservation on excavated ruins;
- Improve visitor facilities;
- Improve access to the site.

– ***The Base Of Bagh-e Shahzade, Mahan, Kerman***

Short-term objectives are to:

- Document, prepare and complete relevant information;
- Continued the monitoring program, conservation of the built property;
- Improve visitor access to the site and inside of it;
- Continue botanical studies;
- Review development projects such as *Haft-Bagh-e- Alavi* project in the Mahan city;
- Improve visitor facilities;
- Repair and insulation of the pavilion's roof;
- Perform *Kahgel* coating on the surrounding wall of the garden;
- Monitoring water canal, pools and fountains;
- Maintenance of the water canals;
- Organize trainees in the monitoring and investigation activities;
- Strengthen scientific interactions with research institutes and universities.

Mid-term objectives are to:

- Conclude plant documentation;
- Hold of the training courses to educate the personnel;
- Strengthen education and introduce all components of the complex in order to present more information about the base to visitors;
- Facilitate the operations of the base staff in the garden;
- Publish the results of the investigation center activities;
- Review and evaluate various teams activities of the base;

Long-term objectives are to:

- Hold scientific conferences pertaining conservation and management;
- Strengthen communication between education and presentation team with local communities;
- Publish investigation activities results;
- Promote and equip the base.

– ***The Base Of Persian Garden, Yazd:***

*Bagh-e Dolat Abad, Yazd*

Short-term objectives are to:

- Continued research about original plants;
- Do research about the ground strata, and soil;
- Study on the structural system of the building in order to answer all relevant questions about each part and to resolve unsuitable changes in structural aspects;
- Strengthen cooperation with *Waghf* organization;
- Increase cooperation with the tourism deputy as well as to use the experts and facilities of the organization;
- Inaugurate the center of the documents and library of the research Base Of Persian Garden, Yazd;

- Study, evaluate and perform the repairing and conservation plans of the building, context of the garden to avoid unprofessional and temporal actions;
- Cooperate with universities, higher-education centers, institutes and scientific research centers in different fields.
- Organize tourists' access in different parts of the garden,
- Improve visitor facilities.

Mid-term objectives are to:

- Conduct research about the ancient systems of irrigating system to rehabilitate it;
- Conduct research about the threatening factors against irrigating systems at the present time;
- Conduct research about the old gardening system to rehabilitate the system;
- Connect the old and new routs of access in the garden;
- Cooperate with municipality and related organizations to organize the traffic around the garden;
- Train the employees of the garden;
- Improve the presentation and promotion;
- Perform programs with local associations in the research and introductory fields;
- improve electrical utilities in the buffer zone, respecting the visual integrity of the garden;
- improve urban facilities in the buffer zone according to the regulations;
- Prepare and perform remedy plan against termite.
- Connect structural reinforcement of the pavilion;
- Do anthropological studies regarding the cooperation and relations between different religions involved in the garden constructions.

Long -term objectives are to:

- Hold scientific and research conferences related to the garden;
- Coordinate all the research foundations around the protective axes.
- Improve the relationship between presentation and promotion team with schools and other centers in order to promote education quality;



- Publish the performance and results of the actions and operations done in the research center of the base;
- Promote the qualitative levels of different parts of the base;
- Rehabilitate the historical *Qanat* of Dolat Abad and preserve the traditional irrigating system;

### *Bagh-e Pahlavanpur, Mehriz*

Short-term objectives are to:

- Continue restoration of the tower and the stable;
- Finalize the electricity and facilities installation;
- Remove damages caused by environmental factors in the tower and stable;
- Clean remained materials from previous repair activities in the garden;
- Reform and reorganize electrical utilities in the winter residence buildings;
- Install of the doors and windows in the winter residence building;
- Continued restoration of the floor of the winter residence building;
- Continued conservation actions in the *Hammam* and *Matbakh* (kitchen) discovered by archeologists recently;
- Do research in order to reduce the effect of environmental factors on the plants (such as wind);
- Continued the repair action in the main area;
- Dredge water canals and plots.

Mid-term objectives are to:

- Reinforce MirzaNasrollah and Anjiraak water-mills;
- Reorganizing the newly discovered archeology site (*Hammam* and *Matbakh*);
- Conclude the plants conservation total project in the garden;
- Conservation the water works;
- Conservation and documentation of the plants in the garden;
- Creation and completion of the database of the Garden;
- Improve electrical utilities respecting the visual integrity of the garden.

Long-term objectives are to:

- Revitalize *Qanats* by collaboration with local communities and authorities;
- Publish research results in the Pahlavanpur garden;
- Optimize water utilization by educational and legal actions.

– ***The Base Of Bagh-e Akbariyeh, Birjand***

Short-term objectives are to:

- Prepare a management plan for the *Bagh-e Akbariyeh*;
- Replace withered trees and plants;
- Conduct regular Weeding and maintenance;
- Prepare a more comprehensive database of plant kinds in the garden;
- Design a visitor route in the garden.

Mid-term objectives are to:

- Repair historic bowers of the garden;
- Introduce the garden by publishing brochures, books, etc;
- Revitalize historical pathways of the garden;
- Conduct pedology research;
- Monitoring the *Qantas* Water ;
- Plan to prevent damages from pests;
- Gather existing relevant documents and information about the garden( photos, maps, articles, and books);
- Prepare a risk preparedness plan;
- Prepare plants conservation plan;
- Train staff and guards of the site for cleaning, preservation, and visitor assistance.

Long -term objectives are to:

- Equip technical office of *Bag-e Akbariyeh*;
- Improve tourism facilities;
- Reform constructions in the buffer zone;

- Conclude and perform the plants conservation plan;
- Conclude and perform the risk preparedness plan.

### 5.f. Sources and levels of finance

Sources of finance that each provincial base benefits from are governmental, tourism income and National & International funds. These funds are utilized in the below mentioned manner.

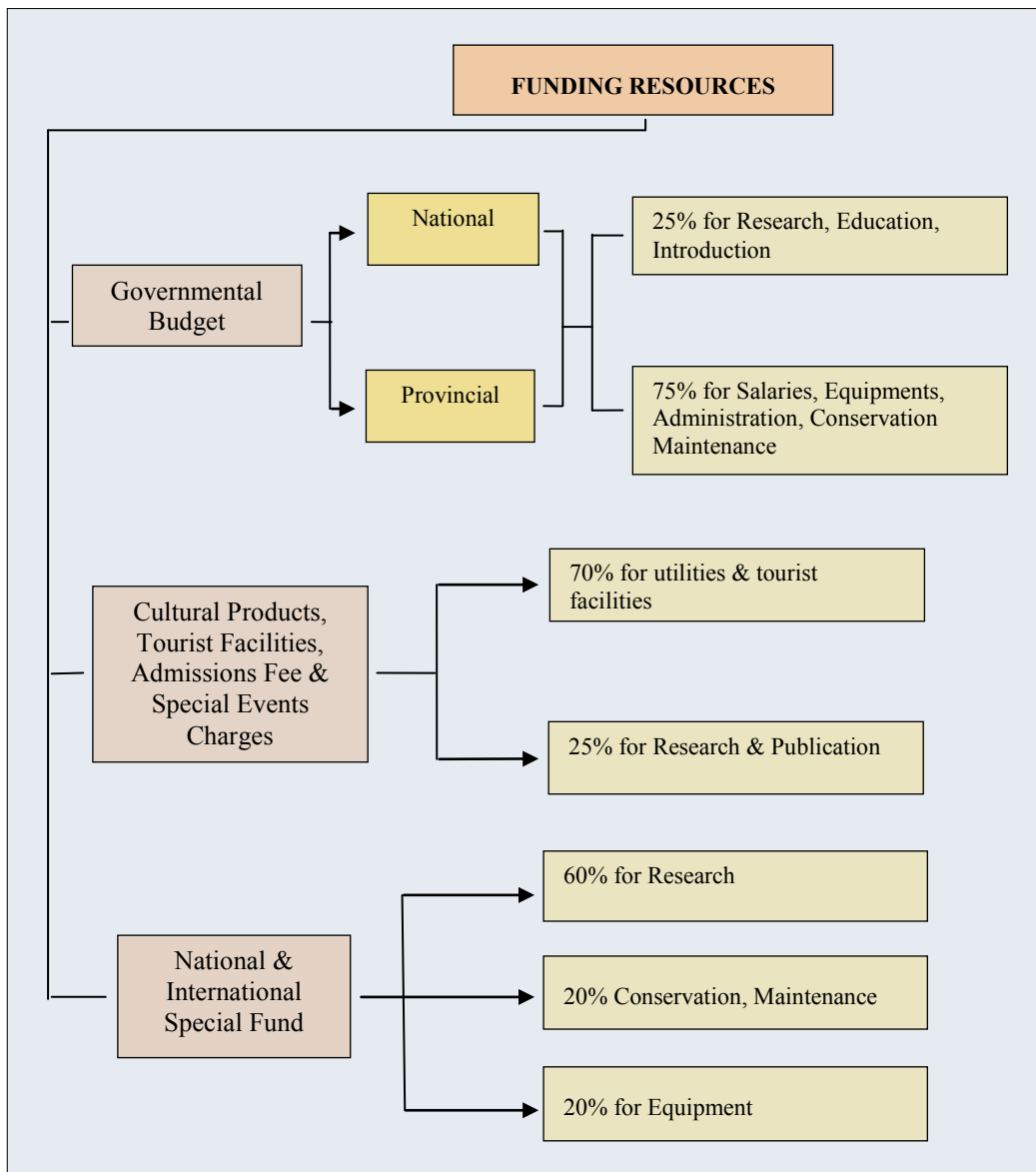


Fig.5-8. Sources and targets of funding in The Base of Persian Garden

***The Ancient garden of Pasargadae***

Item	Year	Governmental budget(Million RLS)	Provincial ICHHTO budget (Million RLS)	Income of the site(Million RLS)
1	2009	1500	400	500
2	2008	1300	300	400
3	2007	1100	200	400
4	2006	900	200	350
5	2005	900	150	300
6	2004	700	150	300
Total		6400	1400	2250
		10050		

Fig.5-9. Budgets used for Ancient Garden of Pasargadae, 2004-2009 (Archives of Research Foundation of Parse-Pasargadae)

***Bagh-e Eram***

Item	Year	Provincial, University Of Shiraz budget(Million RLS)	Income of the site(Million RLS)
1	2009	800	2000
2	2008	750	1900
3	2007	750	1800
Total		2300	5700
		8000	

Fig.5-10. Budgets used for *Bagh-e Eram*, 2007-2009 (The Base of Persian Garden, Fars)

***Bagh-e Chehel Sotun***

Item	Year	Provincial ICHHTO budget (Million RLS)	Income of the site(Million RLS)
1	2009	1000	3000
2	2008	900	2740
3	2007	850	2500
Total		2750	8240
		10990	

Fig.5-11. Budgets used for *Bagh-e Chehel Sotun*, 2007-2009 (The Base of Persian Garden, Isfahan)

***Bagh-e Fin***

Item	Year	Governmental budget(Million RLS)	Income of the site(Million RLS)
1	2009	1000	3400
2	2008	500	3000
3	2007	880	3200
Total		2380	9600
		11980	

Fig.5-12.Budgets used for Bagh-e Fin, 2007-2009 (The Base of Persian Garden, Isfahan)

***Bagh-e Abas Abad***

Item	Year	Governmental budget(Million RLS)
1	2009	300
2	2008	150
3	2007	50
Total		2750

Fig.5-13.Budgets used for Bagh-e Abas Abad, 2007-2009 (The Base of Bagh-e Abas Abad)

***Bagh-e Shahzade***

Item	Year	Provincial ICHHTO budget (Million RLS)	Income of the site(Million RLS)
1	2008	800	701
2	2007	885	658
3	2006	800	752
Total		2485	2111
		4596	

Fig.5-14.Budgets used for *Bagh-e Shahzadeh*, 2006-2009 (The Base of Shahzadeh)

***Bagh-e Dolat Abad***

Item	Year	Governmental budget(Million RLS)	Income of the site(Million RLS)
1	2009	810	99
2	2008	510	27
3	2007	340	57
4	2006	180	36
5	1995-2005	3500	14
Total		5680	233
		5913	

Fig.5-15.Budgets used for Bagh-e Dolat Abad, 1995-2009 (The Base of Persian Garden, Yazd)

***Bagh-e Pahlavanpur***

Item	Year	Governmental budget (Million RLS)	Income of the site (Million RLS)
1	2009	1750	40
2	2008	800	32
3	2007	291	32
4	2006	92	25
total		2933	129
3062			

Fig.5-16. Budgets used for Bagh-e Dolat Abad, 2006-2009 (The Base of Persian Garden, Yazd)

***Bagh-e Akbariyeh***

Item	Year	Governmental budget (Million RLS)	Income of the site (Million RLS)
1	2009	700	48
2	2008	2325	52
3	2007	1150	37
4	2006	610	31
Total		4785	168
4953			

Fig.5-17. Budgets used for Bagh-e Akbariyeh, 2006-2009 (The Base of Bagh-e Akbariyeh)

The National Base of Persian Garden funding for provincial bases in 2009:

Provincial bases		Research fund (Million RLS)	Conservation fund (Million RLS)	Total
<i>The Base Of Persian Garden, Fars</i>	<i>The Ancient garden of Pasargadae</i>	300	-	300
	<i>Bagh-e Eram</i>	700	-	700
<i>The Base Of Persian Garden, Isfahan</i>	<i>Bagh-e Chehel Sotun</i>	300	300	600
	<i>Bagh-e Fin</i>	400	600	1000
<i>The Base Of Bagh-e Abas Abad</i>		300	300	600
<i>The Base Of Bagh-e Shahzade</i>		500	1000	1500
<i>The Base Of Persian Garden, Yazd</i>	<i>Bagh-e Dolat Abad</i>	300	-	300
	<i>Bagh-e pahlavanpur</i>	200	300	500
<i>The Base Of Bagh-e Akbariyeh</i>		300	400	700
Total		3300	2900	6200

## **5. g. Sources of expertise and training in conservation and management technique**

- 1- The Technical & steering committee of Persian Garden
- 2- The Research Organization of Cultural Heritage and Tourism that is responsible for multidisciplinary researches and training of young experts of ICHHTO.
- 3- Local and national universities located in the region of each provincial base:

– *The Base Of Persian Garden, Fars:*

Regarding the *Pasargadae ancient garden*, due to its importance and high cultural significance in national and international scales this base enjoys cooperation of expert consultancies of research institutes and universities all around the country, as well as local universities.

*Bagh-e Eram* also enjoys cooperation with local universities and universities in Tehran, especially *University Of Tehran*. In addition, there is a close cooperation between *University Of Shiraz* and the base.

– *The Base Of Persian Garden, Isfahan:*

The Provincial base of Isfahan has close cooperation with *Honar University of Isfahan* (University of art), other universities of Iran, municipality of Isfahan, and The Natural Resource Organization of Isfahan and Jihad-e Keshavarzi organization.

– *The Base of Bagh-e Abas Abad, Behshahr, Mazandaran*

*The Base of Bagh-e Abas Abad* cooperates with Local universities like Svad Kooh University of Mazandaran and also other universities in the country.

– *The Base Of Bagh-e Shahzade, Mahan, Kerman*

*Azad university of Kerman*, *Bahonar university of Kerman* and other universities of Iran are cooperating with *The Base Of Bagh-e Shahzade*.



– *The Base Of Persian Garden, Yazd:*

*The Base of Persian Garden, Yazd* enjoys cooperation of State and *Azad universities* of Yazd province and other universities of Iran.

– *The Base Of Bagh-e Akbariyeh, Birjand*

*Azad University of Birjand*, universities of Khorasan region and other universities of the country especially *University of Tehran* cooperate with the base.

4- The Higher educational centre of ICHHTO and other national universities provide sources of expertise and training in conservation and management techniques.

5- The exchange of expertise between provincial bases as well as WHS's.

6- Planning and running various training workshops by the national base of Persian Garden and deployment of traditional craftsmen and masons for training young in each province.

One of the most important sources of expertise and training in conservation and management technique is deployment of the traditional craftsmen and masons. In Each region of Iran there are different techniques of construction. The National base of Persian garden is in charge of establishing communication with traditional craftsmen and also each provincial base enjoys collaboration with regional craftsmen and head artisans.

## 5h. Visitor facilities and statistics:

All of the nine gardens nominated to be included in the world heritage list have sufficient facilities for visitors. Although enhancing and improving such facilities are among the priorities of the management plan of provincial bases and the National Base of Persian Garden.

Generally, most of the gardens nominated either have the following facilities or are being equipped with them:

- Visitors' guides with sufficient knowledge;
- Guards as well as personnel trained to act in emergency times;
- Guiding signboards in the site;
- Visitors' paths in the garden;
- Signposts installed in streets and roads to show visitors' paths;
- Automobile parking lots near the garden;
- Facilities including restaurants, rest houses and lavatories;
- Introductory booklets and brochures as well as tourist maps.

Some of visitor facilities in the nominated gardens are mentioned below:



Fig.5-18. Distributing visitor questionnaire forms, Pasargadae (Archives of Research Foundation of Parse-Pasargadae)



Fig.5-19.Guiding signboards in the site and connecting roads, Pasargadae (Archives of Research Foundation of Parse-Pasargadae)



Fig.5-20.Visitors' guides, Pasargadae (Archives of Research Foundation of Parse-Pasargadae)



Fig.5-21.exhibiting discovered objects, Pasargadae (Archives of Research Foundation of Parse-Pasargadae)



Fig.5-22.Visitor camping near Bagh-e Fin (The Base of Persian Garden, Isfahan)



Fig.5-23. Signboards in the Bagh-e Fin (The Base of Persian Garden, Isfahan)



Fig.5-24. Introductory boards, Bagh-e Fin (The Base of Persian Garden, Isfahan)



Fig.5-25. Information panels, Bagh-e Fin (The Base of Persian Garden, Isfahan)



Fig.5-26. Signboards, *Bagh-e Eram* (the Base of Persian Garden, Fars)



Fig.5-27. Presentation products and published material, the Base of Persian Garden, Fars



Fig.5-28.signboards in the Bagh-e Abas Abad (The Base of Bagh-e Abas Abad)



Fig.5-29.Visitors' guides, Bagh-e Abas Abad (The Base of Bagh-e Abas Abad)



Fig.5-30.handy crafts shop, *Bagh-e Shahzadeh* (The Base of *Bagh-e Shahzadeh*)

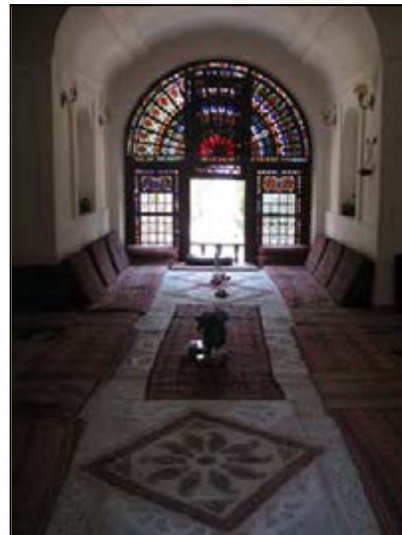


Fig.5-31.resting place in the *Bagh-e Shahzadeh* (The Base of *Bagh-e Shahzadeh*)



Fig.5-32.presentation products and published material, The Base of *Bagh-e Shahzadeh*





Fig.5-33.Preparing the interior space for visitors during restoration activities, Bagh-e Chehel Sotun (Base of the Persian Garden, Isfahan)



Fig.5-34.Preventing visitor physical impact, Bagh-e Chehel Sotun (Base of the Persian Garden, Isfahan)



Fig.5-35.Presentation products and published material, The Base of Persian Garden, Isfahan



Fig.5-36. Student camping, Bagh-e Pahlavanpur (The Base of Persian Garden, Yazd)



Fig.5-37. Exhibition of handicrafts in Bagh-e Akbariyeh (The Base of Bagh-e Akbariyeh)



Fig.5-38. Visitors' guides, Bagh-e Akbariyeh (The Base of Bagh-e Akbariyeh)

**Visitor statistics of *The Ancient garden of Pasargadae***

Statistic of Visitors in 2006		
Month	Iranian	Foreign
March - April	100809	1480
April - May	10809	2737
May - June	8061	694
June - July	5988	295
July - August	9148	869
August - September	16771	838
September - October	2215	663
October - November	6845	870
November - December	3052	331
December - January	2674	697
January - February	4486	551
February - March	18682	795

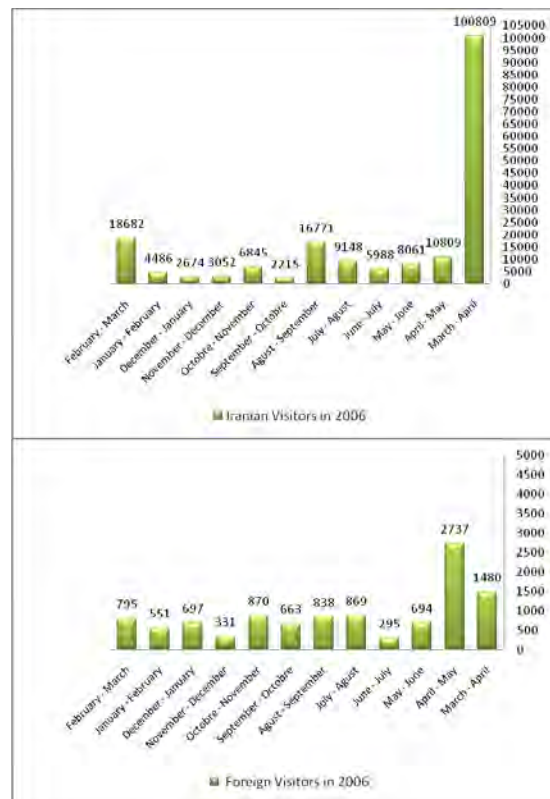


Fig.5-39.Number of visitors in 2006 (Archives of Research Foundation of Parse-Pasargadae)

Statistic of Visitors in 2007		
Month	Iranian	Foreign
March - April	119226	2068
April - May	20879	2338
May - June	12344	1059
June - July	7907	360
July - August	15230	963
August - September	24522	1015
September - October	3779	1772
October - November	6596	1963
November - December	4167	390
December - January	2169	927
January - February	2199	530
February - March	13239	789

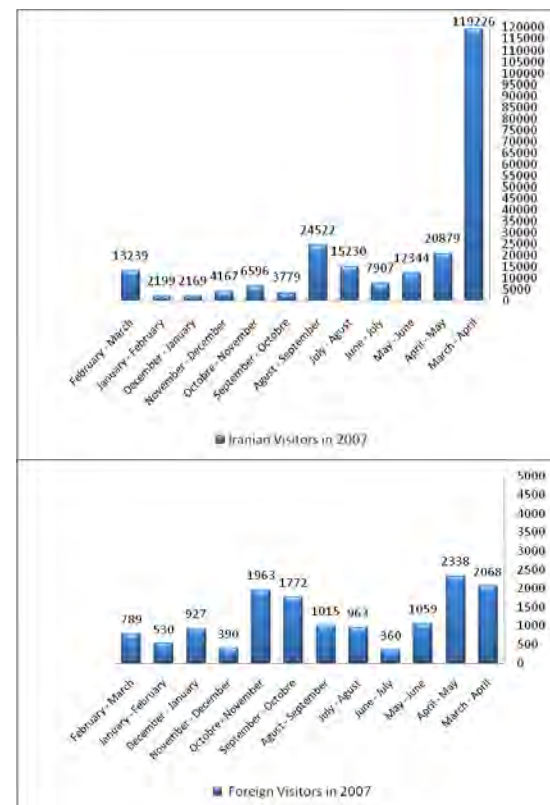


Fig.5-40.Number of visitors in 2007 (Archives of Research Foundation of Parse-Pasargadae)



Statistic of Visitors in 2008		
Month	Iranian	Foreign
March - April	167885	2820
April - May	13922	4391
May - June	36544	1210
June - July	11419	603
July - August	18603	1327
August - September	15092	1034
September - October	9999	3897
October - November	8949	2623
November - December	6483	670
December - January	5674	1146
January - February	6658	880
February - March	25578	1241

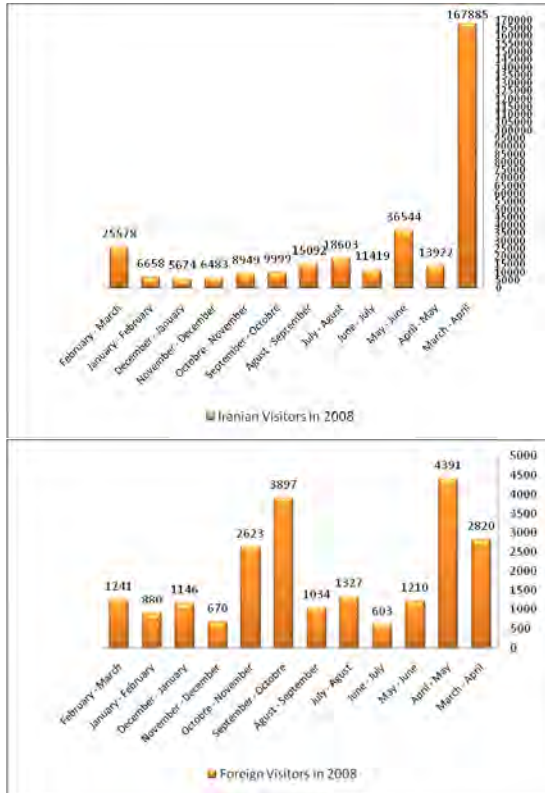
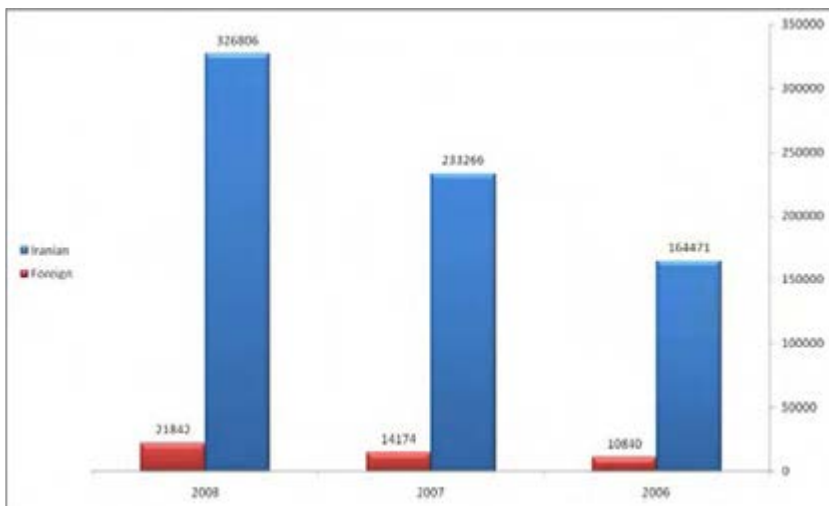


Fig.5-41.Number of visitors in 2008 (Archives of Research Foundation of Parse-Pasargadae)



Number & Variety of visitors in 2006,2007&2008		
Year	Iranian	Foreign
2006	164471	10840
2007	233266	14174
2008	326806	21842

Fig.5-42.Number & Variety of visitors in 2006, 2007&2008 (Archives of Research Foundation of Parse-Pasargadae)

### Visitor statistics of Bagh-e Eram

Month	Iranian visitor	Foreign visitors	Total
March-April	193512	314	193826
April-may	35521	1488	37009
May-June	40143	391	40534
June-July	26544	201	26745
July-august	56282	464	56746
August-September	17339	263	17602
September-October	21687	1160	22847
October-November	14490	251	14741
November-December	19573	218	19791
December-January	11130	124	11254
January-February	14302	159	14461
February- march	5502	208	5710
Total	456025	5241	461266

Fig.5-43. Visitor statistics of *Bagh-e Eram* -2008 (The Base Of Persian Garden, Fars)

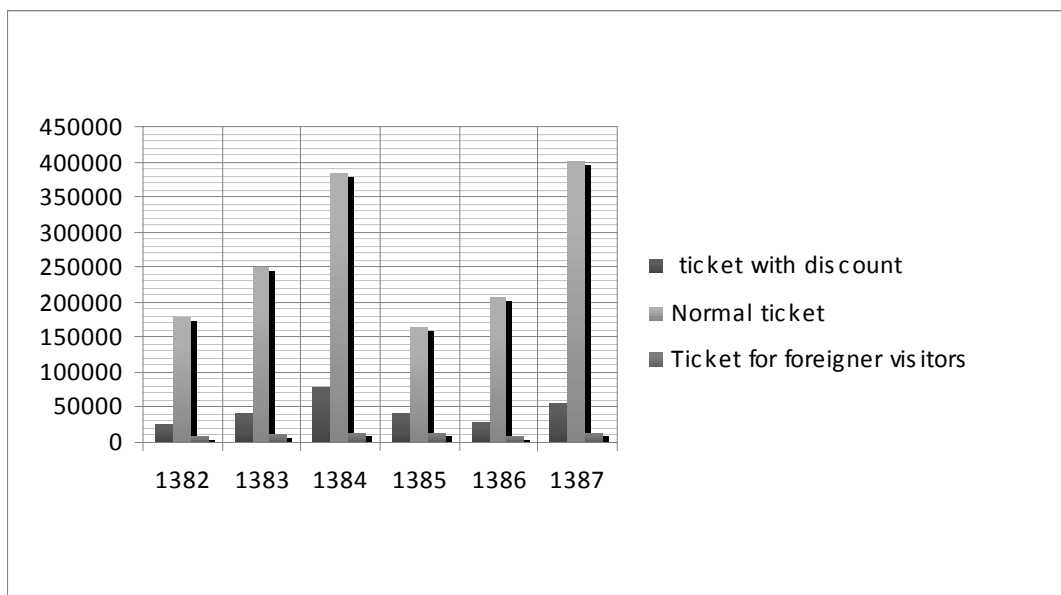


Fig.5-44. Visitor statistics of *Bagh-e Eram* 2003-2008 (The Base Of Persian Garden, Fars)

**Visitor statistics of Bagh-e Chehel Sotun****2002**

Month	Iranian visitors	Foreign visitors	Number of free visitors
March - April	169102	1754	12344
April - May	19204	2655	11062
May - June	17540	945	1747
June - July	24118	784	4124
July - August	37375	1125	-
August - September	50396	1245	14394
September - October	5668	1023	390
October - November	20115	1384	2620
November - December	8020	766	3400
December - January	6062	1020	2510
January - February	6605	637	7140
February - March	17734	958	4530

Fig.5-45.Number of visitors in Bagh-e Chehel Sotun , 2002 (The Base Of Persian Garden, Isfahan)

**2003**

Month	Iranian visitors	Foreign visitors	Total visitors
March - April	92223	2766	94989
April - May	30630	3694	34324
May - June	19675	1625	21300
June - July	27937	1175	29112
July - August	47431	2427	4985
August - September	58217	1921	60138
September - October	14601	3321	17922
October - November	10369	1972	12341
November - December	8070	521	8591
December - January	8699	951	9650
January - February	17393	553	17946
February - March	12366	568	12934

Fig.5-46.Number of visitors in Bagh-e Chehel Sotun , 2003(The Base Of Persian Garden, Isfahan)

**2008**

Month	Iranian visitors	Foreign visitors	Total visitors
March - April	173063	3022	176085
April - May	25764	3798	29562
May - June	23833	1445	25278
June - July	27225	1961	29186
July - August	64110	1346	65456
August - September	62489	990	63479
September - October	14902	1585	16487
October - November	17577	2728	20305
November - December	10405	565	10970
December - January	5990	671	6661
January - February	7577	1165	8745
February - March	14464	1773	16237

Fig.5-47.Number of visitors in Bagh-e Chehel Sotun , 2008 (The Base Of Persian Garden, Isfahan)

**2009**

Month	Iranian visitors	Foreign visitors	Number of free visitors
March - April	223140	6114	31791
April - May	45158	6340	17996
May - June	23353	2387	3560
June - July	33212	1916	5754
July - August	50508	2260	4606
August - September	28398	1281	1924
September - October	19085	3172	1839
October - November	15639	2799	2797
November - December	11197	824	1782
December - January	8744	987	1655
January - February	9191	910	2844
February - March	18921	940	2767

Fig.5-48.Number of visitors in Bagh-e Chehel Sotun , 2009 (The Base Of Persian Garden, Isfahan)

**Visitor statistics of Bagh-e Fin:**

	March - April	April - May	May - June	June - July	July - August	August - September	September - October	October - November	November - December	December - January	January - February	February - March
1999	67300	33700	17000	14500	18500	30000	10000	8000	4500	2700	3300	4500
2000	52000	48700	12500	13500	22800	46569	4695	21293	5200	11351	9510	18419
2001	71402	71985	24260	16180	20790	35135	23615	18970	5000	10400	11120	18725
2002	65600	63310	33925	16230	29180	37180	31675	19765	8440	10625	12750	17470
2003	106480	92935	48325	21690	30965	42185	30927	9618	10405	10026	19887	12770
2004	116915	92835	65970	31500	37435	59595	36815	6220	10930	9450	13690	27080
2005	184109	203402	134200	26100	45600	67550	32550	49520	18295	12330	11624	24560
2006	197296	90700	55539	31237	31210	94980	7818	46780	9527	7585	7925	19460
2007	192595	242104	61680	21635	59936	45457	15553	20111	15909	5532	5519	18771
2008	263505	165459	103052	44782	97431	49558	41185	26617	28021	16948	33372	44458

Fig.5-49.Statistic on the number of Iranian visitors in Bagh-e Fin between 1999-2008 (ICHHTO of kashan)

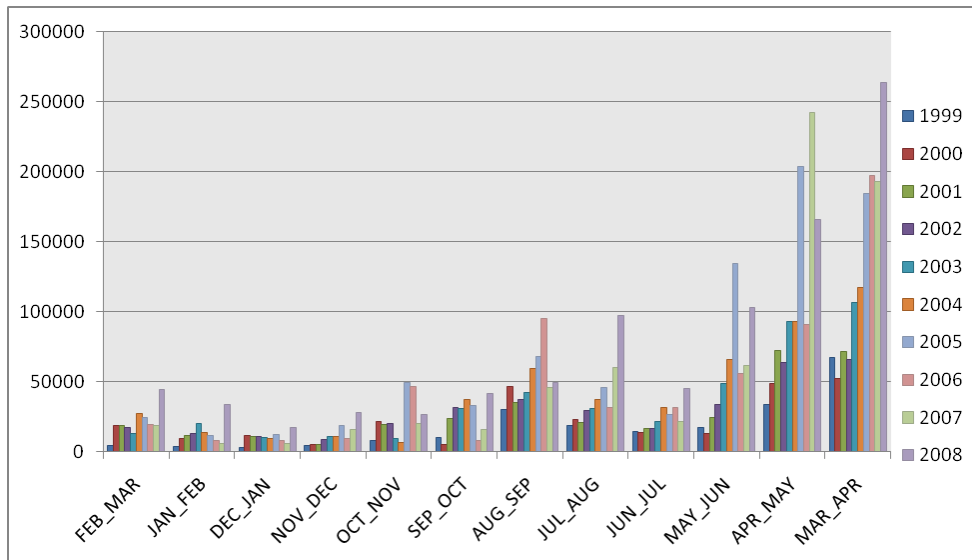


Fig.5-50.Statistic on the number of Iranian visitors in Bagh-e Fin between 1999-2008 (ICHHTO of kashan)

	March - April	April - May	May - June	June - July	July - August	August - September	September - October	October - November	November - December	December - January	January - February	February - March
1999	850	1000	400	267	1000	600	1027	850	300	300	150	323
2000	900	3150	700	300	905	795	73	1465	445	465	355	776
2001	2508	5189	1300	570	1030	1140	1005	800	120	140	94	250
2002	544	1510	1020	646	860	920	1550	650	200	165	185	250
2003	410	1115	210	390	350	400	510	350	210	260	380	550
2004	750	1475	1350	943	-	-	-	530	370	440	475	640
2005	1494	2648	1300	650	900	950	1100	680	555	370	306	340
2006	671	1300	412	234	191	705	1115	815	386	315	190	545
2007	2580	2096	420	200	609	600	1003	1162	766	303	175	114
2008	1180	2035	705	481	645	497	2210	910	297	316	442	731

Fig.5-51.Statistic on the number of foreign visitors in Bagh-e Fin between 1999-2008 (ICHHTO of Kashan)

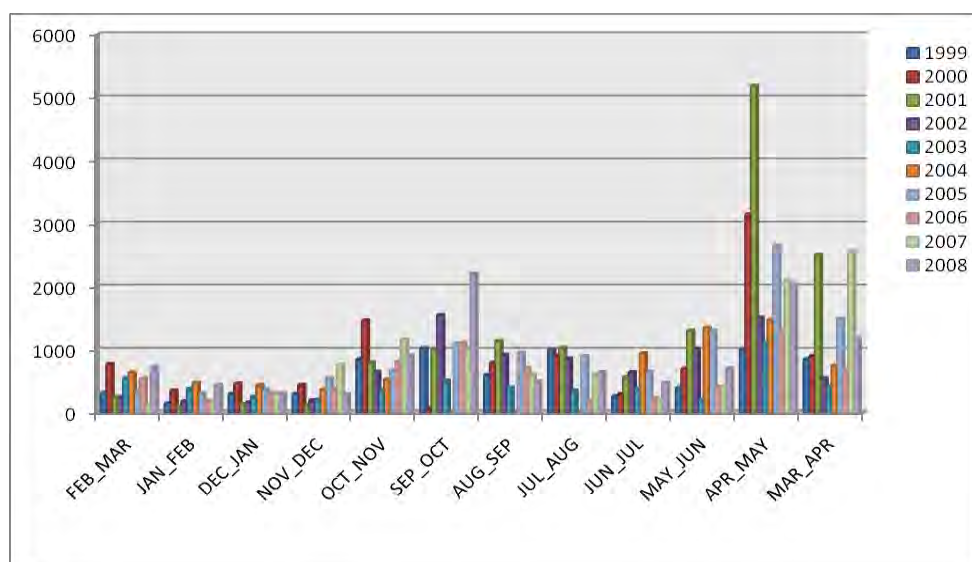


Fig.5-52.Statistic on the number of foreign visitors in Bagh-e Fin between 1999-2008 (ICHHTO of kashan)

	March - April	April - May	May - June	June - July	July - August	August - September	September - October	October - November	November - December	December - January	January - February	February - March
1999	68150	34700	17400	14767	19500	30600	11027	8850	4800	3000	3450	4823
2000	52900	51850	13200	13800	23705	47364	4768	22758	5645	11816	9865	19195
2001	73910	77174	25560	16750	21820	6275	24620	18770	5120	10540	11214	18975
2002	66144	64820	34945	16876	30040	38100	332258	20415	8640	10790	12935	17720
2003	106890	94050	48535	22080	31315	42585	31437	9968	10615	10286	20267	13320
2004	117665	94310	67620	32443	37435	59595	36815	6750	11300	9890	14165	27720
2005	185603	206050	135500	26750	46500	68500	33650	50200	18850	12700	11930	24900
2006	197967	92000	55951	31471	31401	95685	8925	47600	9913	7900	8115	20005
2007	195175	244200	62100	21835	60545	66057	16556	21273	16675	5835	5694	18885
2008	264685	167494	103757	45263	98076	50055	43395	27527	28318	17264	33814	45189

Fig.5-53.Statistic on the number of total visitors in Bagh-e Fin 1999-2008 (ICHHTO of kashan)

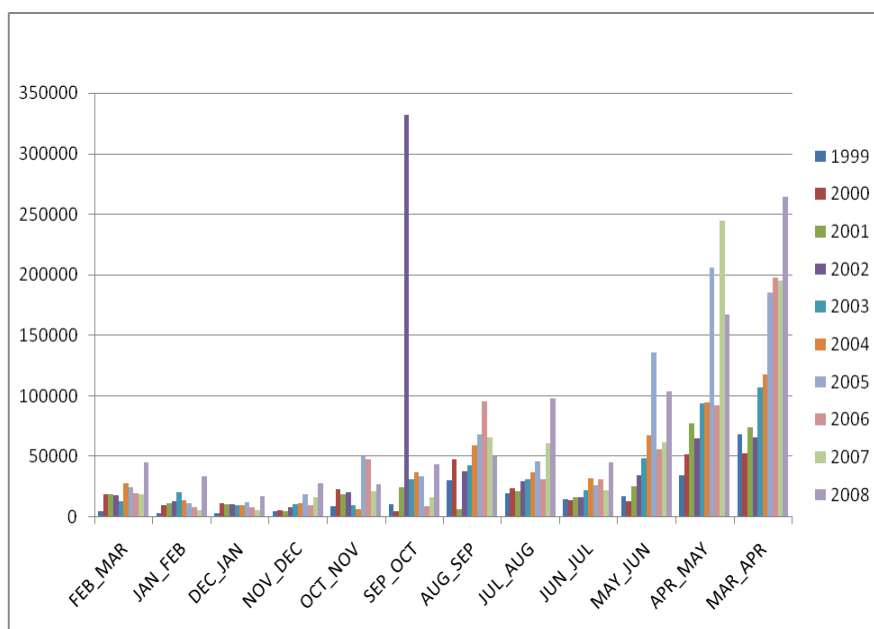


Fig.5-54.Statistic on the number of total visitors in Bagh-e Fin, 1999-2008 (ICHHTO of kashan)

### Visitor statistics of Bagh-e Abas Abad

Year	Total visitors
2000	200000
2001	250000
2002	320000
2003	400000
2004	600000
2005	840000
2006	800000
2007	870000
2008	910000
2009	985000

Fig.5-55.Number of visitors in Bagh-e Abas Abad , 2000-2009 (The Base Of Bagh-e Abas Abad)

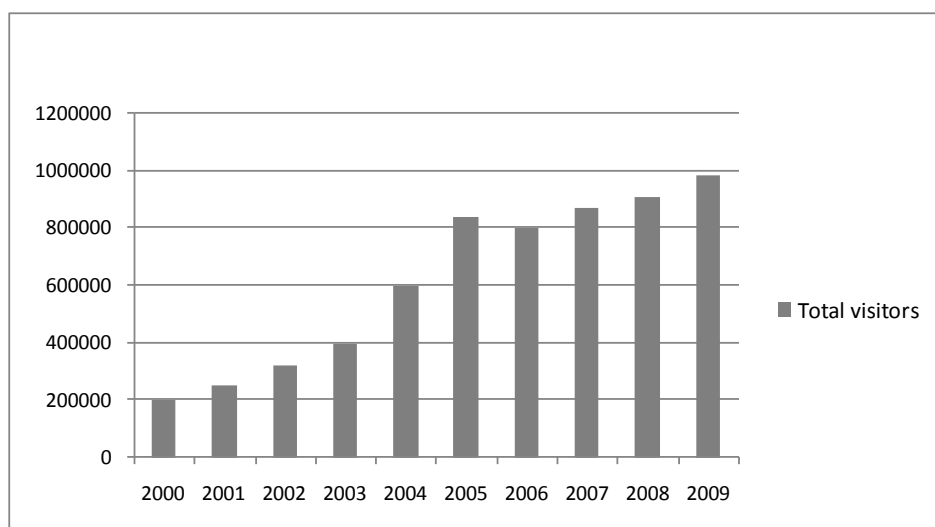


Fig.5-56.Diagram of the number of total visitors.2000-2009 (The Base Of Bagh-e Abas Abad)



**Visitor statistics of Bagh-e Shahzade**

Month	Iranian visitors	Foreign visitors
MAR - APR	131979	840
APR - MAY	23998	1159
MAY - JUN	15553	311
JUN - JUL	6818	218
JUL - AUG	28163	511
AUG - SEP	11839	413
SEP - OCT	11643	902
OCT - NOV	12745	804
NOV - DEC	10550	160
DEC - JAN	5618	193
JAN - FEB	10202	60
FEB - MAR	10589	169
Total	279694	5740

Fig.5-57.Number of visitors in *Bagh-e Shahzade*, 2003(The Base Of *Bagh-e Shahzadeh*)

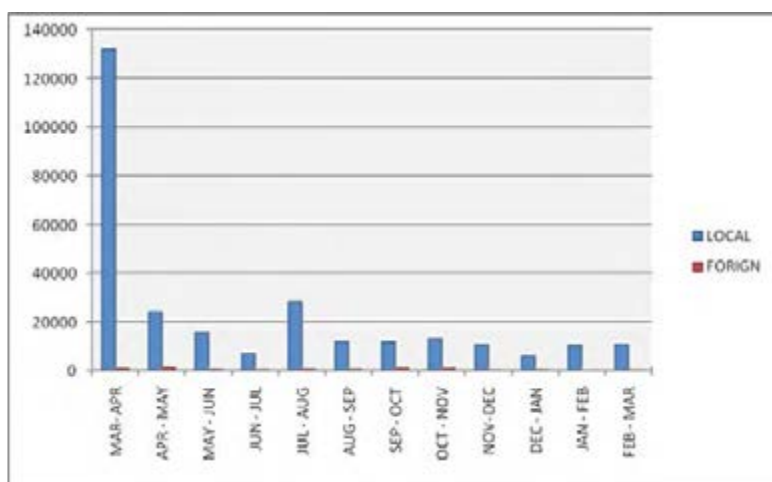


Fig.5-58.Number of visitors in *Bagh-e Shahzade*, 2003  
(the Base Of *Bagh-e Shahzadeh*)

Year	number of visitors
2005	194790
2006	231505
2007	214027
2008	285434

Fig.5-59.Number of visitors in *Bagh-e Shahzade* 2005 – 2008  
(the Base Of *Bagh-e Shahzadeh*)

**Visitor statistics of Bagh-e Dolat Abad**

Row	Month	Total visitors	
		2008	2007
1	1	97200	11550
2	2	13400	11963
3	3	12100	8236
4	4	8100	7100
5	5	12600	9500
6	6	6200	10800
7	7	9700	4500
8	8	10000	9100
9	9	6500	6700
10	10	3700	2600
11	11	6400	3700
12	12	7200	6900
<b>Total</b>		<b>193100</b>	<b>92449</b>

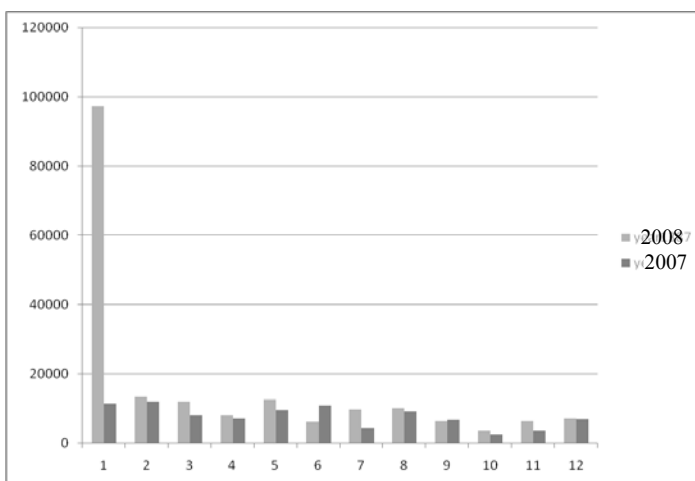


Fig.5-60.Number of visitors in Bagh-e Dolat Abad, 2007&2008 (the Base of Persian Garden, Yazd)

**Visitor statistics of Bagh-e Pahlavanpur**

year	Number of visitors
2001	1500
2002	2000
2003	2500
2004	5000
2005	9000
2006	12000
2007	15000
2008	15000
2009	2000

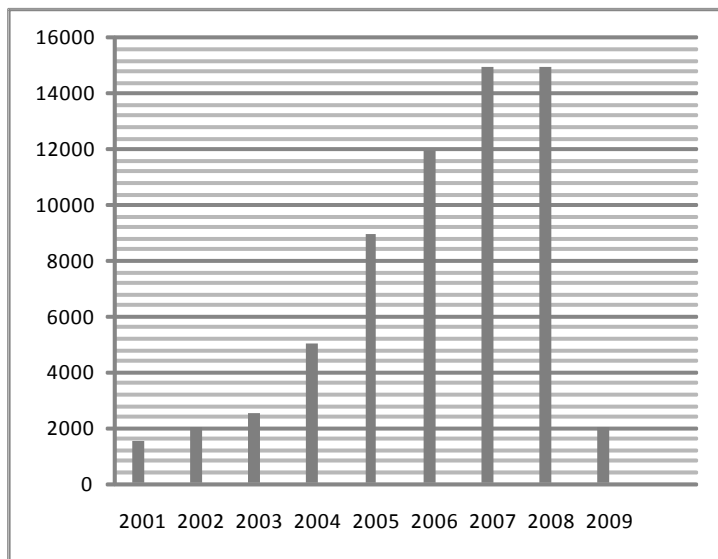


Fig.5-61.Number of visitors in Bagh-e Pahlavan Pur (2001-2009) (the Base of Persian Garden, Yazd)

**Visitor statistics of Bagh-e Akbariyeh**

date	Number of visitors
18/3/2009	-
19/3/2009	212
20/3/2009	233
22/3/2009	1373
23/3/2009	1330
24/3/2009	2074
25/3/2009	2004
26/3/2009	1417
27/3/2009	1610
28/3/2009	1710
29/3/2009	1359
30/3/2009	927
1/4/2009	1335
2/4/2009	1765
3/4/2009	1658
4/4/2009	-
19/3/2007	1243
20/3/2007	1080
22/3/2007	946
23/3/2007	989
24/3/2007	1246
25/3/2007	2042
26/3/2007	2426
27/3/2007	1986
28/3/2007	2232
29/3/2007	1824
30/3/2007	1283
1/4/2007	1824
2/4/2007	1070
3/4/2007	1943
4/4/2007	-
5/4/2007	502

Fig.5-62.Number of visitors in Bagh-e Akbariyeh, 2009, 2007 (the base of Bagh-e Akbariyeh)

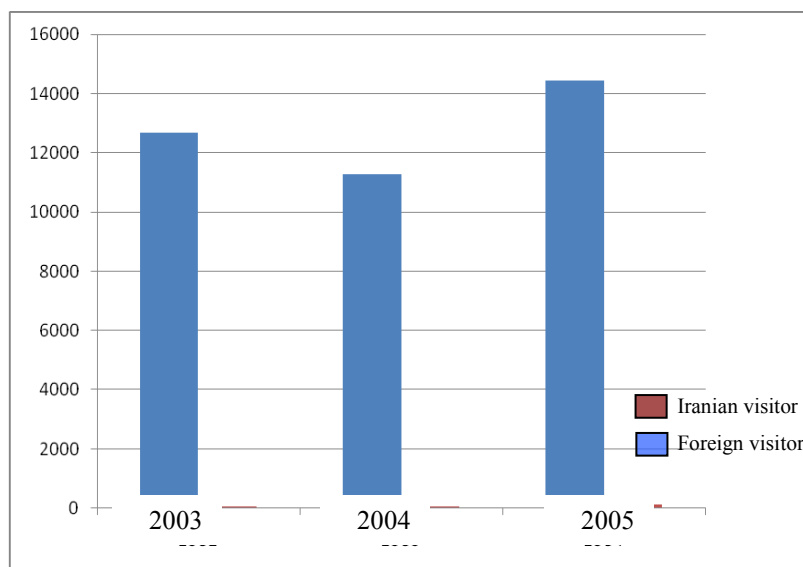


Fig.5-63. Iranian and foreign visitors of Bagh-e Akbariyeh (the base of Bagh-e Akbariyeh)

## **5. i. Policies and programmes related to the presentation and promotion of the property**

The National Base of Persian Garden's Policies of presentation and promotion of the property are to:

- Increase public awareness of, and interest in, the property;
- Promote the cultural value of the property as a whole;
- Balance visitor access and facilities in all gardens;
- Identify the economic and cultural benefits of the site and work with partners in the local community to maximize these benefits, without damaging the heritage resource.

Short-term objectives are to:

- Prepare Data base of the Persian garden ;
- Provide various guide-books for different readers and tourists and for different purposes;
- Train skillful local tour guides;
- Hold periodic scientific conferences on the topic of Persian garden. (in expertise, managing, and public levels);
- Create and reinforce the relation between the governmental departments and originations and local associations with The National Base and provincial bases.

Mid-term objectives are to:

- Run training workshops in the schools on the topic of Persian garden;
- Provide documentary films about the Persian Garden in provincial TV channels;
- Support tourism agencies to improve the quality and quantity of their tours to nominated gardens;
- Run various scientific conferences for information exchange about conservation and management of Persian garden;
- Support and motivate tourism agencies to run especial tours to Persian garden;
- Direct and encourage NGOs for more introduction of the Persian garden;

- Create suitable structures for partnership of universities, higher education centers, scientific institutes and research centers in different fields related to world heritage nominated gardens;
- Create a Web site on the Persian Garden;
- Hold exhibition programs on different gardens.

Long -term objectives are to:

- Develop the tourism rout of the Persian Garden, which connects nominated and other historical gardens of Iran (Fig.5-64.);
- Hold annual exhibitions and conferences.

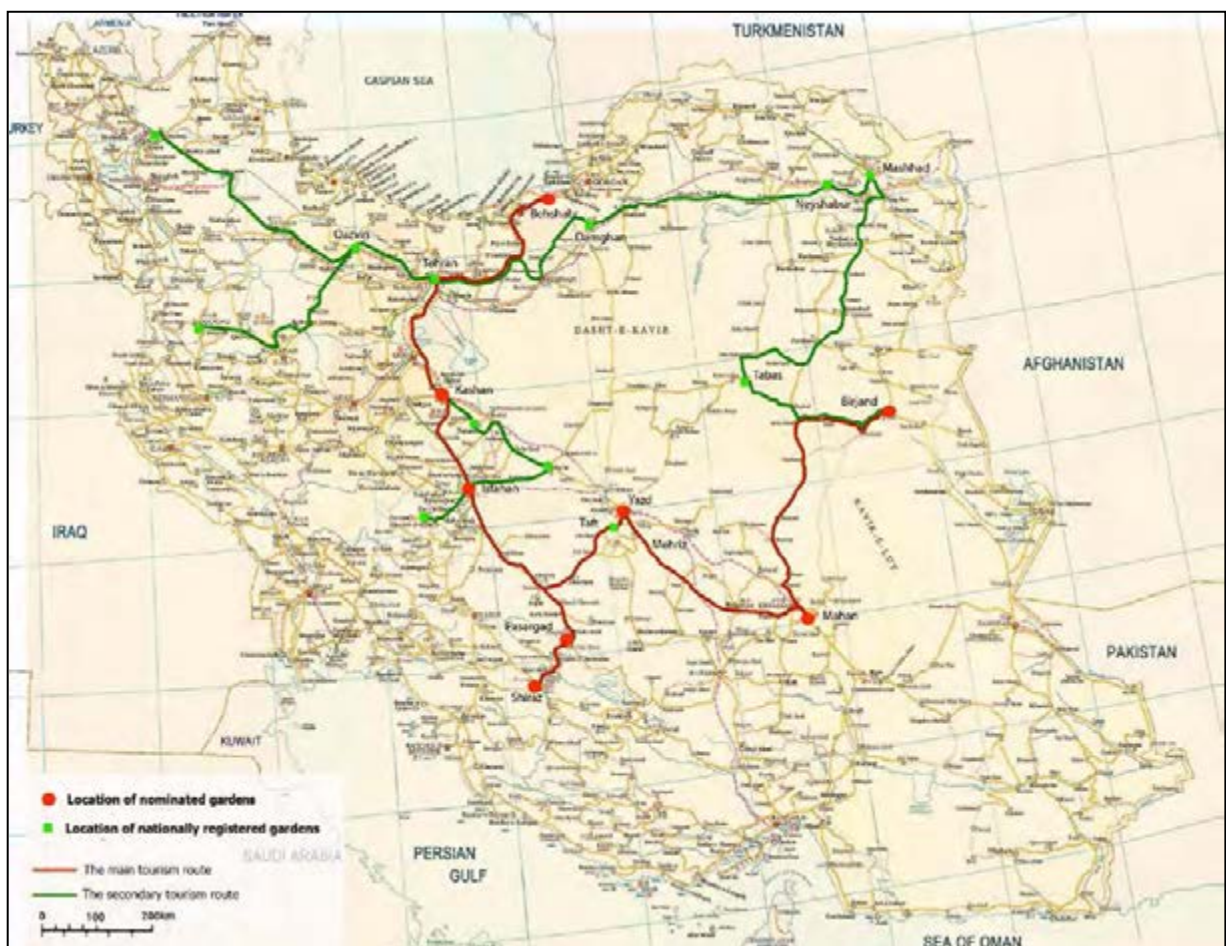


Fig.5-64. The tourism route for the historical gardens of *Iran* as a strategy to balance tourism in different components of the property. (The base map from [www.teodora.com](http://www.teodora.com))

**5. j. Staffing level (professional, technical, maintenance)****The National Base of Persian Garden:**

Members of the technical and steering committee of the Persian Garden are as follows:

Architect	Mohamad Hasan Talebian, Aghdas Karampoor, Hamid Halaj Moghadam
Civil engineer	Hosein Ali Vakil
Natural source specialist	Ali Qomi
Archeologist	Abdolvahab Moosavi Nasab, Zahra Sarookhani
Conservation Architect	Firoozeh Salari, Zatollah Nikzad, Ali Sokhanpardaz
Relic conservation specialist	Mohamad Ali Bozorgmehr
Legal expert	Omid Ghanami
Botanist	H. Satari, Hamideh Ghasempur

Fig.5-65. members of Technical & steering committee of The Persian Garden

Personnel of the National Base of Persian Garden:

Row	Name	position	Academic field
1	Azam Mohamadi	Conservation Architect	BA in Architectural Conservation
2	Firoozeh Salari	Conservation Architect	MA in Architectural & urban conservation
3	Vahid Imani	Conservation Architect	MA in Architectural & urban conservation
4	Haniyeh Banki	Conservation Architect	MA in Architectural & urban conservation
5	Solmaz Yadollahi	Conservation Architect	MA in Architectural & urban conservation
6	Ali Qomi	Natural resource expert	MS in Natural Resource Conservation
7	Leila.S Tavakoli	Conservation Architect	BA in Architectural conservation
8	Alireza Tavakoli	Office personnel	BS in Planning
9	Kamankesh	Architect	MA in Architecture

**The Base of Persian Garden, Fars**The Ancient garden of *Pasargadae*

Members of the steering committee:

- M.H Talebian, PhD. In Architecture;
- M.R. Barzegar, PhD in urban planning;
- H. Rahsaz, Expert craftsman in stone conservation;
- MH.Moheb Ali, MA in Architecture;
- H. Rayati Moghadam, Ma in Architecture;
- Gholi Nejad, Ma in Architecture;
- M.R. Kamali poor, MA in Architecture;
- M. Mojabi, Ma in Architecture;
- M.H. khadem Zadeh, MA in Architecture;
- Y. Mansurzadeh, PhD in Archeology;
- Mohit Tabatabai, MS. In Archeology;
- MK. Tabea, Curator

Row	Name	Position	Academic field
1	F. Gerami	Computer operator	Undergraduate in computer
2	F. Samimi	Computer operator	Undergraduate in computer
3	M. Nasiri- Haghighat	Computer operator	Undergraduate in civil engineering
4	A.Taghavi	Documentation	Undergraduate in Architecture
5	F. Zarei-Kordshooli	Archaeologist	Undergraduate in Archeology
6	H-R. Karimi	Archaeologist	B. in archeology
7	R-A. Zare	Director of security team	B. of English language
8	S. Azizi	Ticket Seller	Diploma
9	H. Askari	Driver	-
10	R-A. Rezai	Driver	-
11	A. Shiravani	Driver	-
12	A.Esmaili	Driver	-
13	E. Yazdani	Service staff	-
14	A-R. Zarei	Service staff	-
15	SH. Rokhsati-khoo	Service staff	-
16	Sh. Shirvani	Service staff	-

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17	GH-A. Tavan-Farad	Service staff	-
18	A-H. Zarei	Guard	-
19	Gh. Saian	Guard	-
20	M. Abedi	Guard	-
21	J. Mosavi	Guard	-
22	J. Abbas Zadeh	Guard	-
23	H. Koorosh Pur	Guard	-
24	A. Shafie	Guard	-
25	M. Ghasemi	Guard	-
26	A Abedi	Guard	-
27	M. Zarei	Guard	-
28	I. Aji	Guard	-
29	E. Abedi	Guard	-
30	A. Shirvani	Guard	-
31	Gh. Eftekhar	Guard	-
32	M. Yazdani	Guard	-
33	M. Zarae	Guard	-
34	F. Shirvani	Guard	-
35	H. Gholami	Guard	-
36	S. Jafari	Guard	-
37	A. Monfared	Guard	-
38	M. Tavana Fard	Guard	-



*Bagh-e Eram*

Row	Name	Position	Academic field
1	Mr. Ali Sokhanpardaz	Director of the base	MA in Conservation of
2	A-R. Ghasemi	Director of official affaires	Bachelor in Herbal production
3	A-R. Samadi	Botany Expert	Master in Agriculture
4	H. Fateh-Neghad	Botany Expert	Master in Agriculture
5	M. Ebrahemi	Expert Botany	Master in Agriculture
6	E. Barahmand	Expert Botany	botanist
7	S-H. Jafari	Office personnel	BA in Persian Literature
8	M-R. Ezadi	Gardener	Traditional craftsman
9	S-H. Hosseini-	Gardener	Traditional craftsman
10	S-H. Hosseini-	Post man	-
11	J. Rahami-Ramaghani	Gardener	Traditional Gardener
12	J. Safari	Service staff	-
13	H-A. Fahandej-Sadi	Gardener	Traditional Gardener
14	GH. Firozi	Gardener	Traditional Gardener
15	GH. Ghanbari	Gardener	Traditional Gardener
16	A. Momen-Mohammad-	Service staff	-
17	E. Ebrahemi	Driver	-
18	E. Akbari	Gardener	Traditional Gardener
19	B. Akbari- Meymandi	Gardener	Traditional Gardener
20	M.J. Bagheri	Gardener	Traditional Gardener
21	J. Bozorgi	Gardener	Traditional Gardener
22	M. Barzegar	Gardener	Traditional Gardener
23	M-A. Naseri- Nejad	Ticket Seller	-
24	N-A. Behi- Zadeh	Gardener	Traditional Gardener
25	E. Taji	Gardener	Traditional Gardener
26	K. Khani	Gardener	Traditional Gardener
27	GH. Khalifeh	Gardener	Traditional Gardener
28	A. Dej- Makhoyi	Gardener	Traditional Gardener
29	M. Razmjoi	Gardener	Traditional Gardener
30	A.Rasouli	Gardener	Traditional Gardener
31	H. Zare	Gardener	Traditional Gardener
32	S. Zare	Gardener	Traditional Gardener
33	A.Zare	Gardener	Traditional Gardener
34	M. Farahani-	Gardener	Traditional Gardener
35	GH. Fariborzi	Gardener	Traditional Gardener
36	A-R. Karimi	Gardener	Traditional Gardener
37	F-A. Keshavarzi	Gardener	Traditional Gardener
38	<i>V. Keshavarzi</i>	Gardener	Traditional Gardener

Row	Name	position	Academic field
39	M-H. Lotfi	<i>Gardener</i>	Traditional Gardener
40	M-H. Mansour- Abadi	<i>Gardener</i>	Traditional Gardener
41	M. Mansour- Abadi	<i>Gardener</i>	Traditional Gardener
42	M. Omidi	<i>Gardener</i>	Traditional Gardener
43	A.Asayesh	<i>Gardener</i>	Traditional Gardener
44	M. Bahadori	<i>Gardener</i>	Traditional Gardener
45	R. Diyalameh	<i>Gardener</i>	Traditional Gardener
46	GH-A. Rajabi	<i>Gardener</i>	Traditional Gardener
47	SH. Abasi	<i>Gardener</i>	Traditional Gardener
48	A.Karimi	<i>Gardener</i>	Traditional Gardener
49	M. Kazem-Zadeh	<i>Gardener</i>	Traditional Gardener
50	M-R. Yousef-Poor	<i>Gardener</i>	Traditional Gardener

## The Base Of Persian Garden, Isfahan

### *Bagh-e Chehel Sotun*

Row	Name	position	Academic field
1	F. Fatehi	Director of the Bagh-e Chehel Sotun office	bachelor
2	Sh. Mir- Moghtadayi	Trustee	Bachelor
3	N. Gohari	Curator	Bachelor
4	M. Derakhshan	Guide	Bachelor
5	Z. Hashemi	Guide	Technician
6	Z. Motamedi	Guide	Technician
7	A. Mosayebi	Guide	Technician
8	M. Abaspour	Guide	-
9	M. Samadi	Guide	-
10	Gh. Yosefi	Guide	-
11	M- R. Yosefi	Ticket Seller	-
12	H- R. Motamedi	Controller	-
13	M. Jazi	Guard	-
14	H. Ghobadi	Service staff	-
15	M. Malekiyan	Gardener	Traditional gardener
16	R. Saghai	Gardener	Traditional gardener

*Bagh-e Fin*

Row	Name	Position	Academic field
1	Zahra Sarookhani	Director of the base	MS. In Archeology
2	Z. Sarookhani	Archeologist	MS in Archeology
3	Harandi	Botanist	BS. In Botany
4	A. Akhtar Kashani	Director of technical team	-
5	Zeraat	Architect	MA in Architecture
6	Alireza Torabzadeh	Guard	-
7	V. Naserinoa	Guard	-
8	M. Shirkhodai	Guard	-
9	M. Gheraati	Guide	-
10	D. Jalalian	Ticket Seller	-
11	S. Agha Miri	Personnel of documentation	-
12	A. Hashem Zadeh	Ticket Seller	-
13	A. Farnejad	Service staff	-
14	A. Taghaedi	Service staff	-
15	A. Gholamgard	Service staff	-
16	M. Abolfazli	Service staff	-
	M. Tooni	Gardener	Traditional gardener
	M. Darbanian	Gardener	Traditional gardener
	A. Sarkari	Gardener	Traditional gardener

*The Base of Bagh-e Abas Abad*

Row	Name	Position	Academic field
1	A. Moosavi Nasab	Director of the base	Archeologist
2	S. Soleimani	Conservation architect	Ma in Conservation of Architecture
3	R. Hoseini fard	Archeologist	Archeologist
4	J. Pooriani	Conservation Architect	Ma in Conservation of Architecture
5	M H. Gasemi	Guard	-
6	M. Karimi	Guard	-

***The Base of Bagh-e Shahzadeh***

Row	Name	Position	Academic field
1	Ali Tvakoli	Director of the base	MA in Conservation of Architecture
2	M. Movahhedi	Relic Conservator	MA in Architecture
3	F. Pas	Conservation architect	BA in Architecture
4	S. Ameri- Mahani	Conservation Architect	BA in Architecture
5	MA. Kadoori	Legal Consultant	-
6	H.R. Rohi	Conservator	BA in Conservation of Architecture
7	Bani-Asadi- Nejad	Conservator	BA in Conservation of Architecture
8	N. Ali-Dadi-	Archaeologist	BA in Archeology
9	P. Mohmmad-Rezai	Guide	BA in Curatorial
10	M. Govashiri	Anthropologist	BA in Anthropology
11	A. Tavakoli	Documentation personnel	MA in Conservation of
12	H. Ghasempoor	Documentation personnel	BA in Agriculture
13	F. Farh- Bakhsh	Documentation personnel	-
14	M. Mobasher	Documentation personnel	-
15	A. Amir Mahani	Guard	-
16	H. Zangi Abadi	Gardener	Traditional Gardener
17	M S. Mahani	Gardener	Traditional Gardener
18	MH. Zangi Abadi	Gardener	Traditional Gardener
19	H. Saknaji	Gardener	Traditional Gardener
20	MA. Mahani	Gardener	Traditional Gardener
21	A. Barzegar Poor	Gardener	Traditional Gardener
22	A. Ashur Mahani	Gardener	Traditional Gardener
23	A. Karamuzian	Gardener	Traditional Gardener
24	H. Babai	Gardener	Traditional Gardener
25	M. Barzegar	Gardener	Traditional Gardener
26	A. Babai	Gardener	Traditional Gardener
27	M. Langari Zadeh	Gardener	Traditional Gardener
28	A K. Amir Mahani	Gardener	Traditional Gardener
29	Al. Babai	Gardener	Traditional Gardener
30	A Poshte Shirvani	Gardener	Traditional Gardener
31	H. Talebi	Gardener	Traditional Gardener
32	H. Askari	Gardener	Traditional Gardener

***The Base Of Persian The Garden, Yazd***

Row	Name	position	Academic field
1	Zatollah Nikzad	Director of the base	MA in Architectural & urban conservation
2	Ebrahim Kazem Najand	Archeologist	MA in Archeology
3	M. Olumi	Relic conservator	MA in Relic conservation
4	Alireza Zarea	Architect	BA in architecture
5	S. Antik	Botanist	BS in Agriculture
6	F. Danesh	Historian	BS in history
7	A.shidhe bori	Office personnel	-
8	H. torki	Office personnel	-
9	A. Lesan Sedgh	Office personnel	-
10	V. Farhadi	Office personnel	-
11	A. Azadi	Office personnel	-
12	M. Habibi Raad	Office personnel	-
13	A. Bagherzadeh	Driver	-

***Bagh-e Dolat Abad***

Row	Name	Position	Academic field
1	MH. Moezodini	Office personnel	-
2	A. Moezodini	Office personnel	-
3	M. Rafi Nejad	Guard	-
4	M. Mir Esmaili	Guard	-
5	H. Zolfaghari	Craftsman	Traditional Craftsman
6	R. Zolfaghari	Craftsman	Traditional Craftsman
7	H. Gholamzadegan	Gardener	Traditional Gardener
8	Hakimi	Gardener	Traditional Gardener
9	H. Radabadi	Gardener	Traditional Gardener
10	M. Mohamadian	Service staff	-

***Bagh-e Pahlavanpur***

Row	Name	Position	Academic field
1	Akbarzadeh	Guard	-
2	M. Barzagari	Craftsman	Traditional Craftsman
3	M. Salari	Gardener	Traditional Gardener
4	Gh. Laghzai	Gardener	Traditional Gardener
5	M. Taba Tabai	Service staff	-
6	M. Sadrai	Guard	-

***The Base of Bagh-e Akbariyeh***

<b>Row</b>	<b>Name</b>	<b>Position</b>	<b>Academic field</b>
1	Aghdas Karampoor	Director of the base	BA in Architecture
2	Hlaj Moghadam	Architect	MA in Architecture
3	Janati far	Conservator architect	MA in Conservation of
4	Safai Mehran	botanist	Botanist
5	Abutorabi Hasan	Gardener	Traditional Gardener
6	Zarea Parviz	Gardener	Traditional Gardener
7	Moghadari Eshagh	Gardener	Traditional Gardener
8	Afsordeh Ali	Gardener	Traditional Gardener
9	Miri Reza	Gardener	Traditional Gardener
10	Amirabadi Abdolreza	Gardener	Traditional Gardener
11	Nokhodi Parviz	Gardener	Traditional Gardener
12	Amirabadi Hosein	Guard	-
13	Khodai Burang Ali	Guard	-

## 6. Monitoring

Necessity of Monitoring and Maintenance:

The main aim of the monitoring program and the maintenance system in The Persian Garden is: preserving their values while respecting integrity and authenticity. The goal of monitoring system is gathering data within an integrated plan. Based on the results of this process, conservation activities can be evaluated.

### 6. a. Key indicators for measuring state of conservation:

There are several indicators in relation with conservation of significant elements in *The Persian Garden*, which must be regularly controlled by the monitoring system. Each nominated garden is consisted of three fundamental elements:

Architecture, irrigation system and plants as complementary features of The Persian Garden and also the tourism and development as two influential factors should be considered. The following diagram shows the main monitoring categories:

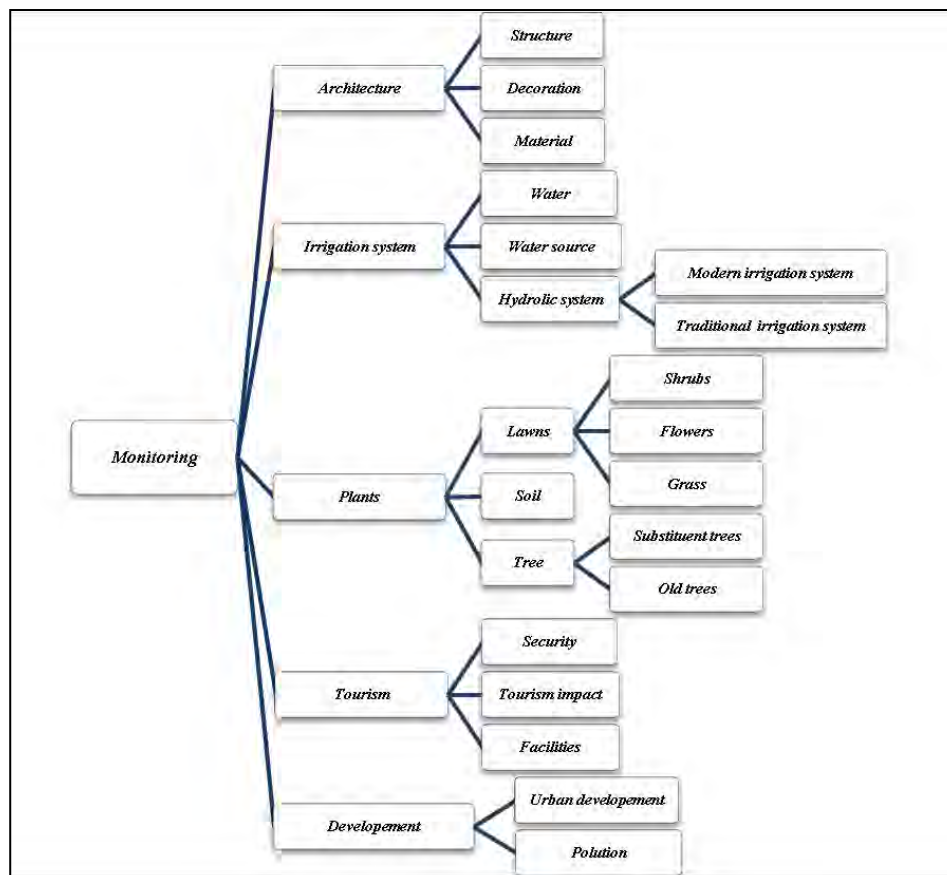


Fig. 6-1. Key indicators for monitoring Persian Gardens

### Architecture Monitoring and Maintenance

What should be controlled in each base in accordance with architecture aspect of gardens is categorized in three main items: structure, ornaments and materials. These items could be adopted according to each garden characteristic.

For instance, *Bagh-e Abbas Abad* and *Pasargadae* as two archeological gardens that need a specific time table for monitoring and maintaining.



Fig. 6-2. Archeological remains in Bagh-e Abbas Abad (Safavid Chahar Taqi)



Fig. 6-3. Central archeological platform in Bagh-e Abbas Abad



Fig. 6-4. Archeological remains of stream and pool in *Ancient Garden of Pasargadae*



Fig. 6-5. Archeological remains in *Ancient Garden of Pasargadae*

The first component of monitoring system is architecture. There are three significant categories consisting of structure, ornament and material which should be specifically



monitored by relevant experts of the monitoring technical team stationed in each provincial base. (Fig 6-23)



Fig. 6-6. *Bagh-e Shahzadeh*



Fig. 6-7. Interior space of summer pavilion in *Bagh-e Dolat Abad*

### **Monitoring and Maintenance of irrigation system**

Irrigation system is one of the most important features of the Persian Garden *which* should be monitored and maintained on a regular basis. Irrigation system monitoring is divided into three main parts as follows:

- 1- Water
- 2- Water source
- 3- Hydraulic system

Water quality control is included in the first category and the purpose of water source monitoring is to check its possible alteration through time as well as the current condition of the water source.

Modern and traditional irrigation systems are two sub categories of the hydraulic system. Each of them is divided into some indicators that check different aspects of irrigation system. For instance, terracotta pipes (*Tanboosheh*) used to connect basins and fountain nozzle as parts of traditional hydraulic system should be regularly monitored.



Fig. 6-8. Irrigation system of Bagh-e Fin



Fig. 6-9. Irrigation system of *Bagh-e Shahzadeh*

### Monitoring and Maintenance of Plants

Routine horticultural activities such as mowing, weeding and replacing old trees or general garden maintenance are being carried out in all of the nominated properties .

Monitoring of plants is divided into three categories: lawn, soil and trees.

Shrubs, flowers and grasses are three subcategories of the lawn. This category will be checked with related indicators that consider different aspects of this feature.

The trees category as well as what mentioned above is divided into young and old trees with their specific need of treatment and monitoring. Another part of plants category is soil quality and fertility that should be checked regularly. All parts of plants monitoring program will be carried out by a monitoring team that consists of landscape experts, a botanist and a paleontologist that work within the technical team for the provincial base. Plants monitoring will be carried out by a monitoring team that consists of a landscape designer, a botanist and a geologist working under the technical team of the provincial base. (Fig 6-25)



Fig. 6-10. View of Plant in *Bagh-e Eram*



Fig. 6-11. View of Plant in *Bagh-e Dolat Abad*

### Monitoring of Tourism

Tourism as an influential factor forms another part of monitoring system and consists of three main categories: security, tourism impact and facilities.

The purpose of security category is to control the safety of visitors, the staff and physical features of garden. Positive or negative aspects of tourism will be considered in tourism impact, which can help to decrease negative effect of tourism and reinforce its positive aspect. The third component of tourism includes services and tourism subcategories. By analyzing these data on an annual basis, the management system consequently can provide information about maximum number of tourists by devising relevant strategies within the management program. The last category of tourism monitoring is the facilities which controls all aspects of facilities by inspecting some indicators that form two sub categories of services and guide. (Fig 6-26)

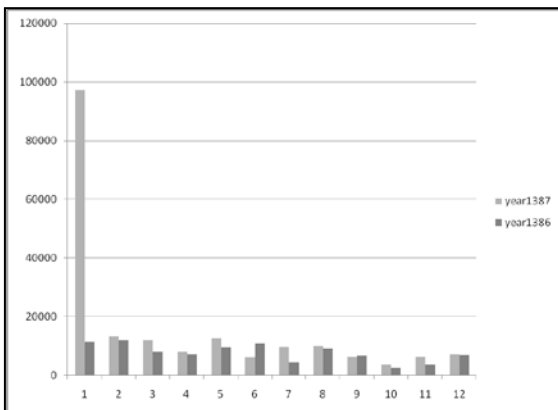


Fig. 6-12. Diagram of visitors of *Bagh-e Dolat Abad*, 2006 -2008

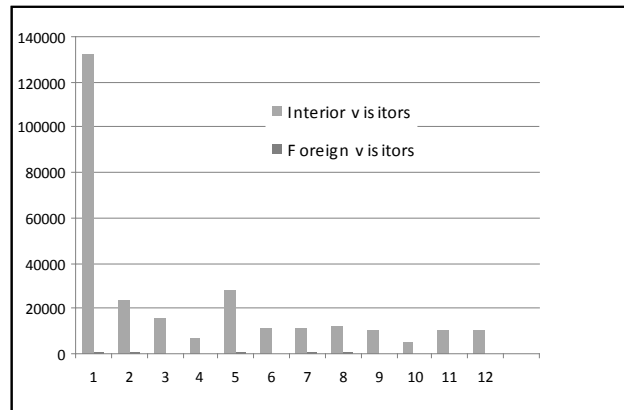


Fig. 6-13. Diagram of visitors of *Bagh-e Shahzadeh* 2008-2009



Fig. 6-14. Visitor monitoring inside Safavid Kushk of Bagh-e Fin (Khoshnood)



Fig. 6-15. Tourism pressure in *Ancient Garden of Pasargadae*, April 2008 (Reseah Foundation of Parse-Pasargadae)

### Monitoring of Development

Historical gardens are affected by development activities in their buffer zone. Development category monitoring involves urban and pollution categories.

Pollution concerns air, water and other existing elements threatening the property. Indicators of this part are described in relevant tables. (Table 5)



Fig. 6-16. Aerial Photo showing development in buffer zone of Bagh-e Fin, 2009 (Google Earth)



Fig. 6-17. Aerial Photo of Bagh-e Fin, 1982 before development (National Cartographic Center)



Fig. 6-18. Aerial Photo showing development in buffer and core zone of Bagh-e Dolat Abad, 1956 (Google Earth)



Fig. 6-19. Aerial Photo of Bagh-e Dolat Abad before development, 2004 (National Cartographic Center)

Monitoring of each garden consists of a specific monitoring and maintenance program on the base of aforementioned general schedule and in concordance with garden features. The program is conducted on a daily, weekly, monthly, seasonal or annual basis. Experts can easily manage activities that should be carried out in specific periods such as shown in the following sample:

Architecture					
Frequency	Daily	Weekly	Monthly	Seasonal	Annual
Structure	<ul style="list-style-type: none"> <li>-Surveying the moisture and temperature of interior spaces</li> <li>- Surveying the moisture and temperature of exterior spaces</li> </ul>	<ul style="list-style-type: none"> <li>- Inspecting cracks by photography, special tools and chalk markers</li> <li>- Inspecting the condition of waterways and roofs</li> </ul>	<ul style="list-style-type: none"> <li>-Inspecting the condition of the ventilation canal</li> <li>- Surveying the roof and its insulation</li> </ul>	<ul style="list-style-type: none"> <li>-Inspecting walls for moisture</li> <li>- Surveying decay made by animals and insects</li> <li>- Surveying external surfaces affected by environmental pollution</li> <li>- Surveying deformation of structural elements</li> <li>-Surveying the mortar condition<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>-Deformation of structural elements</li> <li>-Inspecting soil layers and the condition of foundations</li> <li>-Surveying wooden structures</li> </ul>
Architectural Decoration		<ul style="list-style-type: none"> <li>- Inspecting colorful ornaments</li> </ul>		<ul style="list-style-type: none"> <li>- Erosion of stones and tiles</li> </ul>	
Material					<ul style="list-style-type: none"> <li>Surveying the condition of major materials (such as adobe and etc.)</li> </ul>

Fig. 6-20. Sample form of monitoring of nominated gardens

## **General Maintenance**

Garden sensitivity to changing conditions is the main reason for conducting a maintenance program inside the nominated gardens; thus a list of activities is prepared. These activities that will be done parallel to performing monitoring system are listed here:

1. Maintenance of architectural elements such as cleaning waterways, roof etc...
2. Maintenance of the irrigation system such as cleaning canals, basins and fountains.
3. Maintenance of the green space and plants such as weeding, lopping, fertilizing, mowing and etc.

Maintenance system as a method for minimizing interventions plays a key role in the preservation of historical gardens.

## **The Official Process**

At the end of each season, the technical team of monitoring prepares a report for the technical committee of each garden base which will be analyzed by the provincial base of the garden .This report; its results and suggestions will be sent to the National Base of The Persian Garden. This will serve as a basis for revising the management program.

Monitoring tables of The Persian garden for different features:

Architecture			
CATEGORY	INDICATORS	Frequency	RESPONSIBLE AUTHORITY
Structure	Inspecting cracks by photography, special tools and chalk markers	By case (Weekly, Monthly)	The Provincial bases of Persian Garden
	Inspecting frequently moist parts	By case (Weekly, Monthly)	
	Inspecting soil layers and the condition of foundations	Annually	
	Inspecting the possible deformation of structural elements	Seasonal	
	Control of installation ducts	Monthly	
	Inspecting the ventilation canal	Seasonal	
	Surveying harms done by animals and insects	Weekly Monthly	
	Surveying external surfaces affected by environmental pollution	Seasonal	
	Surveying the moisture and temperature of interior spaces	Daily	
	Surveying wooden structures	Monthly	
	Surveying the moisture and temperature of exterior spaces	Weekly	
	Inspecting the condition of waterways, roofs and insulations <sup>1</sup>	Weekly	
Surveying mortars condition <sup>2</sup>	Seasonal		
Decoration	Inspecting colorful ornaments	By case (Seasonal, Monthly)	
	Inspecting erosion of paintings	By case (Weekly, Monthly)	
	Inspecting stucco works	By case (Monthly, Seasonal)	
	Surveying wooden and textile objects	By case (Monthly, Seasonal)	
	Inspecting possible defects in bricks and tiles	Seasonal	
Material	Surveying main materials <sup>3</sup> condition (such as earthen material and etc.)	Annually	
Description	<sup>1</sup> -especially in rainy and cold seasons <sup>2</sup> -mortars condition involves all factors affecting the quality of the building. <sup>3</sup> - main materials condition means material defects caused by all influential factors after each season.		

Fig. 6- 21: Table of Architecture

Irrigation System				
CATEGORY	INDICATORS	Frequency	RESPONSIBLE AUTHORITY	
Water	Quality control of water <sup>1</sup>	Monthly	The Provincial Bases of the Persian Garden	
Water source	Surveying underground water level	Seasonal		
	Surveying the condition <sup>2</sup> of springs	Seasonal		
Hydraulic System	Modern Irrigation System	Inspecting the condition of hoses		Weekly
		Inspecting the condition of water valves		Monthly
		Inspecting the condition of the water tanks, tubes and wells		Seasonal
	Traditional Irrigation System	Inspecting the condition of tubes and wells		Monthly
		Inspecting the condition of streams		Weekly
		Inspecting the condition of <i>Qanats</i> , canals, basins and fountains		Monthly
		Inspecting the condition of <i>Gavros</i> <sup>4</sup>		Annually
		Inspecting the condition of terracotta pipes	Seasonal	
	Description	<sup>1</sup> -accordance with the standard indicator. <sup>2</sup> - springs condition involves water volume, quality and etc.. <sup>3</sup> - traditional ways of extracting subterranean water <sup>4</sup> -a traditional way of extracting water of well by making a cow walk on a sloped ground.		

Fig .6- 22: Table of Irrigation System



plants				
CATEGORY		INDICATORS	Frequency	RESPONSIBLE AUTHORITY
Tree	Replaced trees	Surveying trees replacement <sup>1</sup>	Monthly	The Provincial bases of the Persian
	Old trees	Surveying old trees <sup>2</sup>	Annually	
		Surveying trees layout <sup>2</sup>	Annually	
Soil		Surveying soil fertility	Seasonal	
		Surveying the quality of subsoil layers	Seasonal	
Lawns	Shrubs	Surveying shrubs condition <sup>3</sup>	Monthly	
	Grass	Surveying the condition of grass <sup>3</sup>	Weekly	
	Hedges	Surveying the condition of hedges	Monthly	
<b>Description</b>		<sup>1</sup> -trees replacement relate to the kind of trees that should be replaced periodically (pomegranate , grapevine and etc) or damaged ones <sup>2</sup> - special trees means, kind of trees that can live longer than one century or have a special character in garden plan (such as Sycamore and Cedar). <sup>3</sup> - lawns surveying condition means studying all factors that have effect on the longevity and quality of garden lawns		

Fig .6- 23: Table of Plants

<b>Tourism</b>			
<b>CATEGORY</b>	<b>INDICATORS</b>	<b>Frequency</b>	<b>RESPONSIBLE AUTHORITY</b>
<b>Facilities</b>	Supervising especial facilities for tourists (guides, brochures, ...)	Seasonal	<b>The Provincial bases of the Persian Garden</b>
	Supervising the provision of tourists facilities	Monthly	
	Controlling the distribution of guiding catalogues	Daily	
<b>Security</b>	Regular patrol by guards	Daily	
	Inspecting heating, cooling, electrical and lighting equipments	By Case (Monthly)	
	Surveying garden security conditions by cameras (CCTV)	Daily	
	Inspecting security alarms	Weekly	
	Inspecting fire extinguishers	Weekly	
<b>Tourist Impact</b>	Tourist counting	Daily	
	Surveying and collecting data and facts about tourists (counting, photography, questionnaire and ticket sales data )	Daily , Weekly and Seasonal (by case)	
	Surveying negative and positive effects of tourists on the property	Seasonal	

Fig .6- 24.: Table of Tourism

<b>Development</b>			
<b>CATEGORY</b>	<b>INDICATORS</b>	<b>Frequency</b>	<b>RESPONSIBLE AUTHORITY</b>
<b>Urban Development</b>	Inspecting the façade and height of buildings located inside the buffer zones based on buffer zone regulations	Monthly	<b>The Provincial bases of the Persian Garden</b>
	Traffic inspecting in the buffer zone (by photography)	Monthly	
	Inspecting urban activities inside the buffer zone	Monthly	
	Inspecting urban equipment and services in buffer zone	Annual	
<b>Pollution</b>	Inspecting air pollution inside the buffer and landscape zones	Monthly	
	Surveying water pollution	Monthly	

Fig .6- 25: Table of Development

**6. b. Administrative Arrangements for monitoring property:**

The monitoring and maintenance teams of provincial bases are responsible for conducting related actions in all nominated gardens. The charts below show the location of monitoring and maintenance team in the management system of nominated gardens.

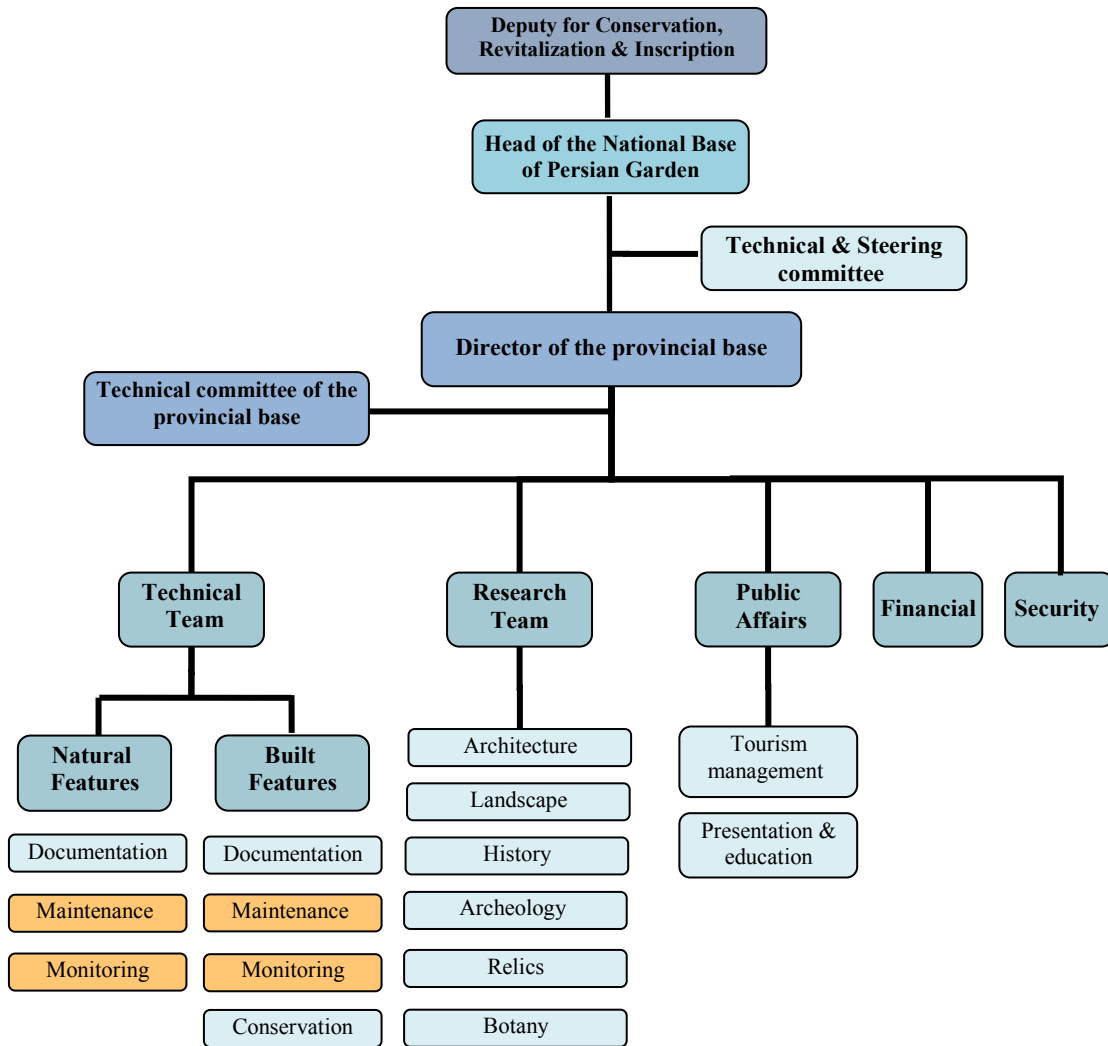


Fig. 6-26. Position of the monitoring team in the management system of the Persian Garden

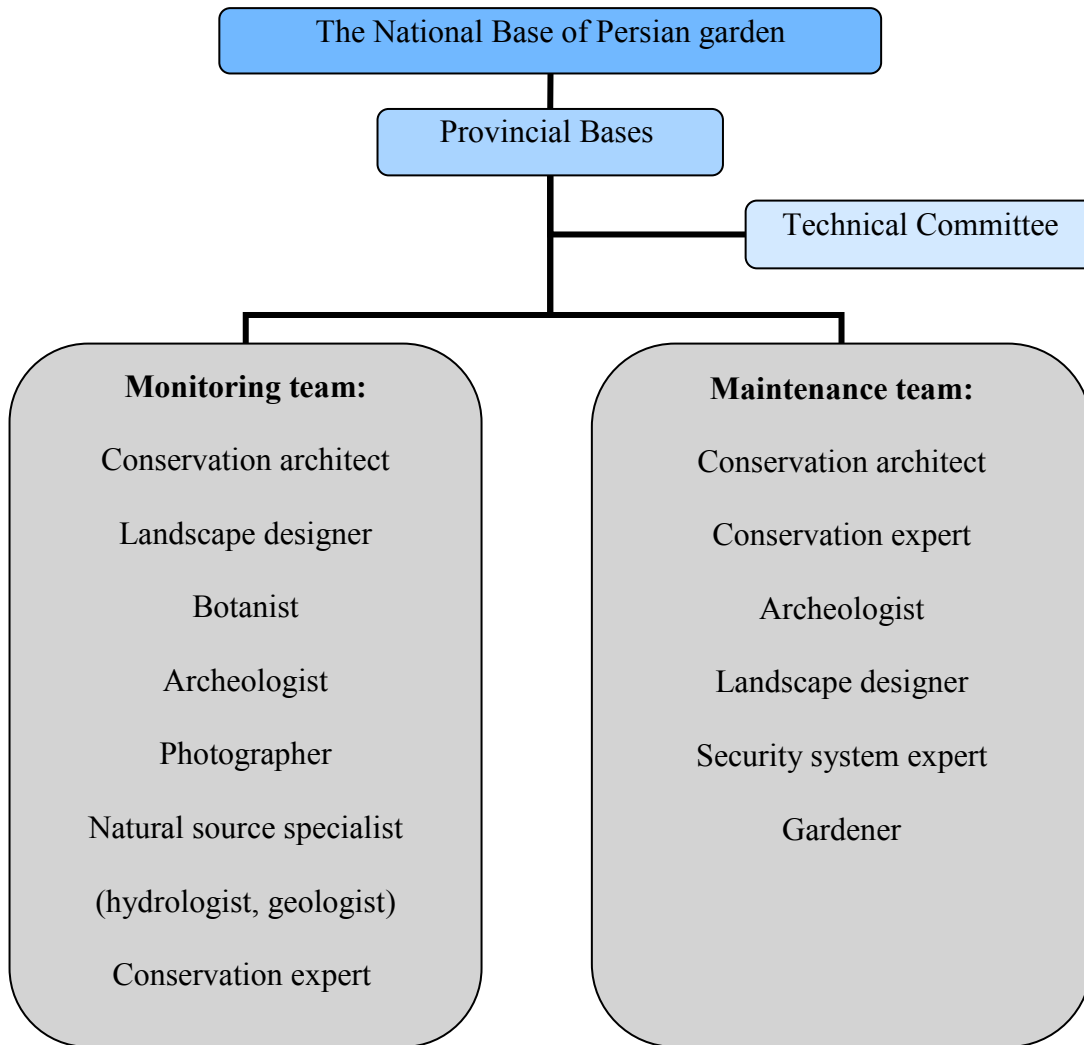


Fig. 6-27 Schematic diagram of Administrative arrangements for monitoring and maintenance

**Names and contacts of the responsible authorities for monitoring the nominated gardens:**

no	Provincial base	name	contact
1	The Base of Persian garden, Fars	A.Taghavi, H-R. Karimi & F. Zarei-Kordshooli	Pasargadae office, Tel: 987297282453
		A-R. Samai, M-R. Ezadi & E. Barahmand	Bagh-e Eram office Tel :987112244068
2	The Base of Persian garden, Isfahan	N. Gohari & M. Malekiyan	<i>Bagh-e Chehel Sotun</i> office, Tel :989372604945
		Harandi, M. Tooni & A. Sarkari	Bagh-e Fin office, Tel :983614465969
3	The Base of <i>Bagh-e Abas Abad</i>	S. Soleimani, R. Hoseini fard & M. Karimi	The Base of Bagh-e Abas abad office: Tel :981525272728
4	The Base of <i>Bagh-e Shahzadeh</i>	M. Movahhedi, H. Saknaji & A. Barzegar Poor	The Base of Bagh-e Shazadeh office: Tel :983412816504
5	The Base of Persian garden, Yazd	Bagh-e Dolat Abad : S. Antik & H. Radabadi	The base of Persian Garden, Yazd office: Tel :983516217070
		Bagh-e Pahlavanpur : M. Barzagari & M. Salari	
6	The Base of Bagh-e Akbariyeh	Safai Mehran , Janati far & Abutorabi Hasan	The Base of Bagh-e Akbariyeh office: Tel :985614446857

### 6. c. results of previous reporting exercises

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## ***Ancient Garden of Pasargadae***

### **Outline of restoration activities in the Ancient Garden of *Pasargadae*<sup>1</sup>**

#### **The First Restoration Period (The *Achaemenids* Era):**

At every corner of the complex, delicate and exact samples of repairs and restorations are at hand undertaken simultaneously with the construction and exploitation of buildings.

#### **The Second Restoration Period (The *Pahlavis* Era: Ali Sami):**

From 1949 until 1964, the head of Persepolis Scientific Institute, Ali Sami who worked under the auspices of Iranian General Office of Archeology conducted excavations and investigations in *Pasargadae* and Persepolis. Restoration activities in this time included

1-Reassembly of broken parts of relief's at gates of Audience Hall and Private Palaces using cement mortar

2-Filling hollow parts of braces in buildings specially the mausoleum using cement mortar

3-Restoration of collapsed sections as well as filling stone grooves by using cement mortar

4-Setting up a awnings over relief's in order to conserve them against adverse weather conditions.

#### **The Third Restoration Period (The *Pahlavis* Era: *Ismeo*):**

In 1964, restoration and conservation operations conducted in *Persepolis*, *Naghsh-e-Rostam* and *Pasargadae* as well as other historical sites of Fars Province were undertaken by the Italian Institute of the Near and Far East (*Ismeo*) to be performed by Italian experts with the help of Iranian General Office of Archeology.

In fact, this period can be considered as the beginning of first series of scientific restorations in *Pasargadae* Historical Complex as well as other historical sites of Fars Province.

#### **The Fourth Restoration Period (The Islamic Republic Era, Technical Bureau of Marvdasht Cultural Heritage Organization, Persepolis):**

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<sup>1</sup> For comprehensive information see page 571 on part 4 a. of this document

In this era, the activities were based on conservation principles. Maintenance of architectural remains was also among these activities.

**The Fifth Period of Operative Restoration Workshops in Pasargadae Historical Complex, Research Center of Pasargadae Historical Complex (The Islamic Republic Era, Research Center of Pasargadae Historical Complex, Parse-Pasargadae Research Foundation):**

Pasargadae Technical Complex (Pasargadae research Center) was established in this time. Scientific activities and research programs were conducted as well as conservation activities with a comprehensive management plan.

**Recent Restoration Activities in 2009**

- Continuing and completing restoration and conservation plans
- Removing the asphalt of the old motorway and correcting the visitors' path
- Sandblasting and roping of the visitors' path
- Designing and administrating the illumination of palaces
- Clearing palace floors and fountains routes from any weeds

**Key plan of Monitoring of Conservation and Restoration**







## **Monitoring of Conservation and Restoration**

### **1. Watercourses**





2. Palace “P”



Fig. 6-36. e: 2009



Fig. 6-37.e: David Stronach, 1963-1961

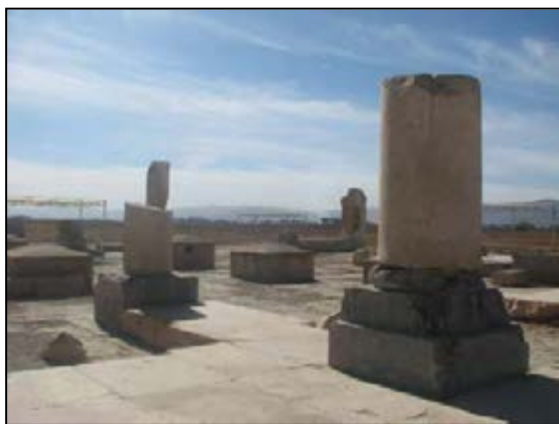


Fig. 6-38. f: 2009



Fig. 6-39. f: David Stronach, 1963-1961



**3. Palace “S”**



Fig. 6-42. h: 2009



Fig. 6-43. h: Ali Sami, 1964-1949



Fig. 6-44. i: 2009



Fig. 6-45. i: Ali Sami, 1964-1949



Fig. 6-46. j: 2009

Fig. 6-47. j: David Stronach, 1963-1961

**4. Palace “R”**



Fig. 6-48. k: 2009



Fig. 6-49. k: David Stronach, 1963-1961



Fig. 6-50. l: 2009



Fig. 6-51. l: David Stronach, 1963-1961





Fig. 6-54. n: 2009



Fig. 6-55. n: David Stronach, 1963-1961

**Monitoring of Development:**







Fig.6-58. Aerial Photo-1998







Fig.6-60.Aerial Photo-2007

**Monitoring of Tourism:**





Fig.6-62. Monitoring of tourism.April2008.  
Reseah Foundation of Parse-Pasargadae



Fig.6-63. Monitoring of tourism.April2008.  
Reseah Foundation of Parse-Pasargadae

**Statistic on the Number of Visitors in *Ancient Garden of Pasargadae* .**

Foreign visitors	Iranian visitors	Month
1480	100809	March - April
2737	10809	April - May
694	8061	May - June
295	5988	June - July
869	9148	July - August
838	16771	August - September
663	2215	September - October
870	6845	October - November
331	3052	November - December
697	2674	December - January
551	4486	January - February
795	18682	February - March

Fig.6-64. Statistic on the number of visitors, 2006

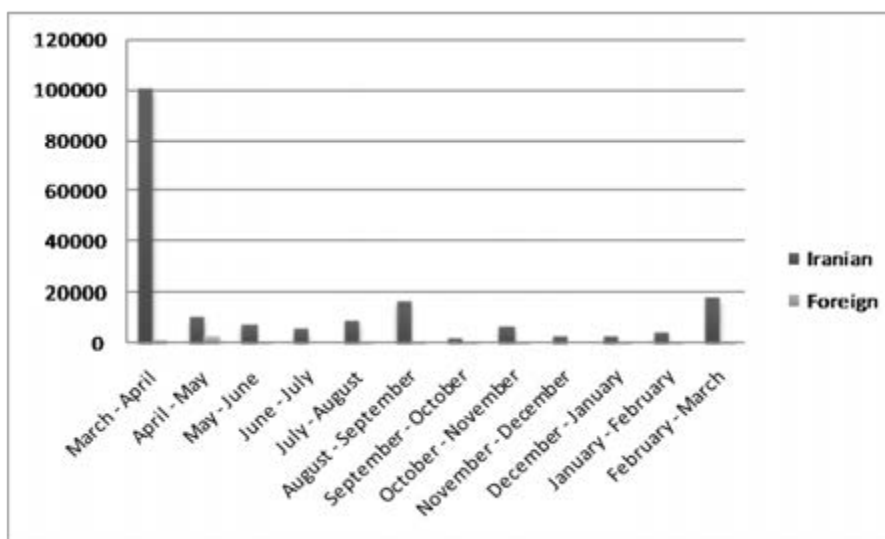


Fig.6-65. Diagram of visitors, 2006

Foreign visitors	Iranian visitors	Month
2068	119226	March - April
2338	20879	April - May
1059	12344	May - June
360	7907	June - July
963	15230	July - August
1015	24522	August - September
1772	3779	September - October
1963	6596	October - November
390	4167	November - December
927	2169	December - January
530	2199	January - February
789	13239	February - March

Fig.6-66. Statistic on the number of visitors, 2007

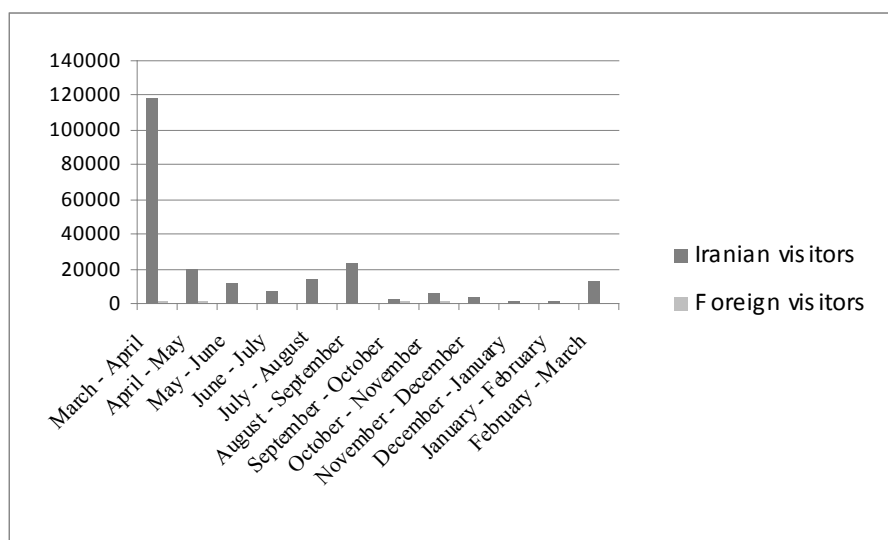


Fig.6-67. Diagram of visitors, 2007

Foreign visitors	Iranian visitors	Month
2820	167885	March - April
4391	13922	April - May
1210	36544	May - June
603	11419	June - July
1327	18603	July - August

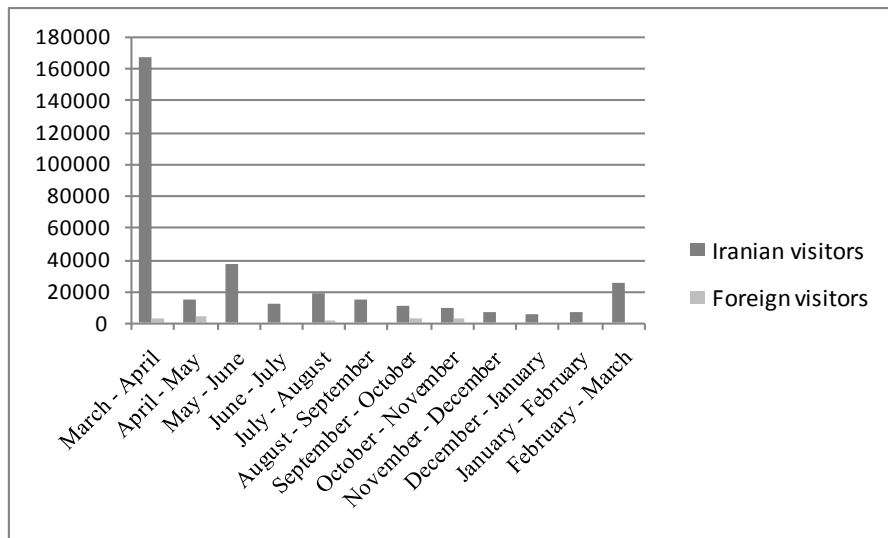


Fig.6-69.Diagram of visitors, 2008

***Bagh-e Eram*****The outline of the Restoration and Conservation Activities in *Bagh-e Eram*<sup>2</sup>:**

The project of preservation of *Bagh-e Eram* was started by the Research deputy of Shiraz University since 2000. It continued until 2005.

Some of these actions are:

- Restoration of the main pavilion in the garden (garden palace)
- Research on the evolution of buildings of the garden that caused to find out the old *Hammam*, kitchen and also the second building of the garden
- Prohibition to build high-buildings around the garden and in its buffer zone
- Conservation of *Andarooni* (Interior Buildings)
- Restoration of the old *Hammam* (Bath) of the garden
- Restoration of north-east entrance
- Restoring north-eastern facade
- Documentation of plants

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<sup>2 2</sup> For comprehensive information see page 579 on part 4 a. of this document

**Key plan of Monitoring of Conservation and Restoration**

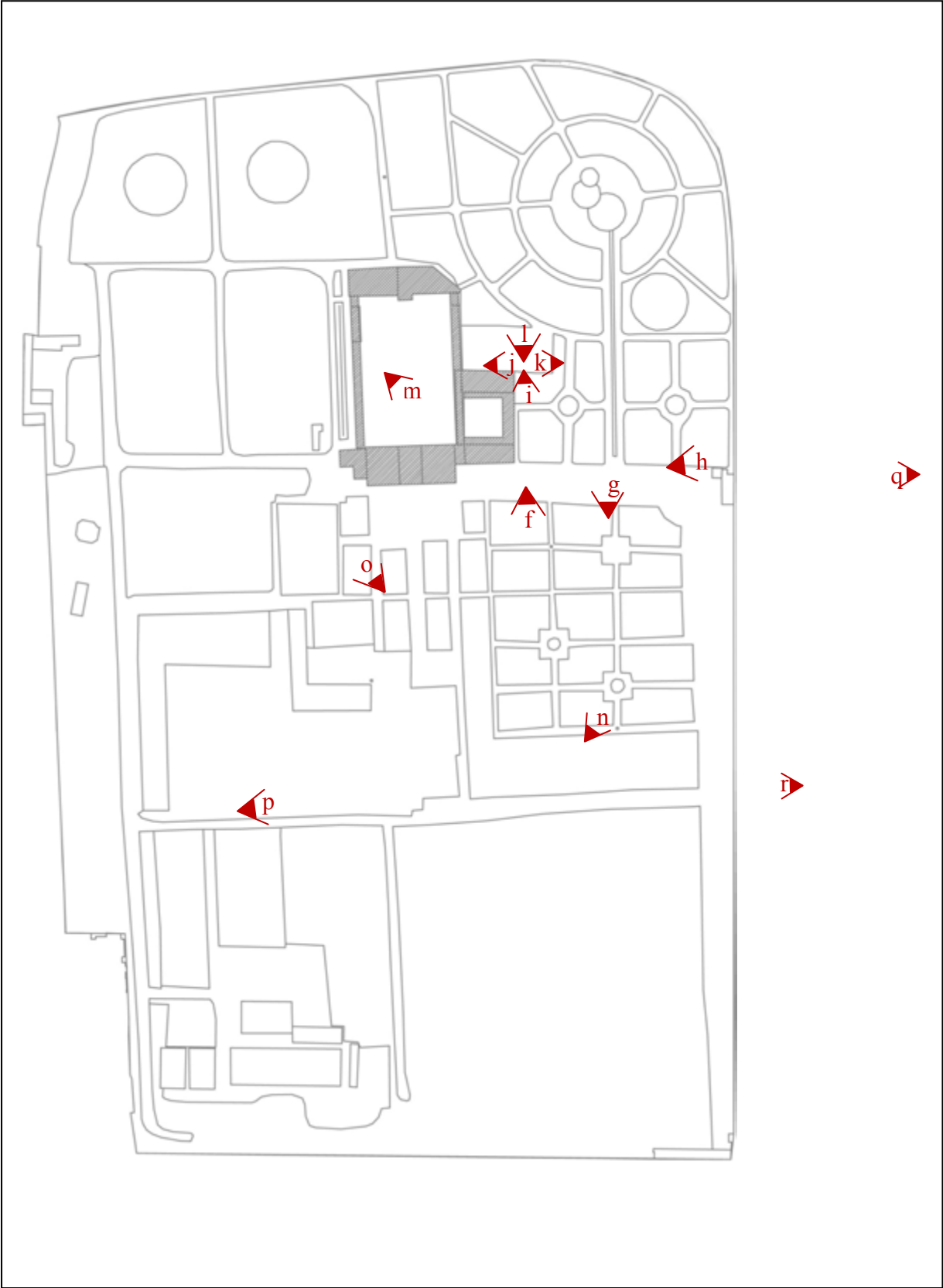




Fig. 6-70. a: Qajars period (Historical Gardens of Shiraz-Kourosh savestani)



Fig.6-71.a: Current situation, 2009 (Archive of ICHHTO of Shiraz)



Fig.6-72.b: Current situation, 2009 (Malekpour)



Fig.6-73.c: Current situation, 2009 (Naderi)

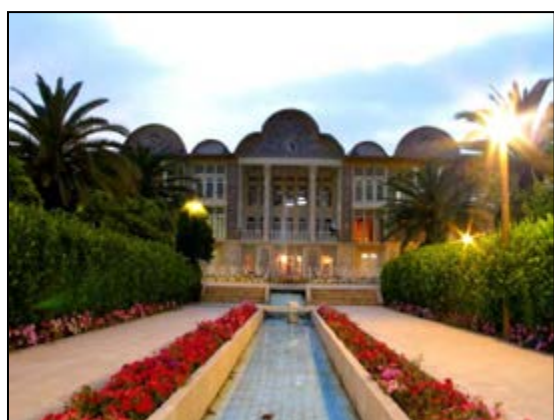


Fig.6-74.d: Current situation, 2009 (Archive of ICHHTO of Shiraz)



Fig.6-75.e: Current situation, 2009 (Malekpour)





Fig.6-76.f: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-77.g: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-78.h: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-79i: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-80.j: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-81.k: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-82.l: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-83.m: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-84n: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-85.p: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-86.o: Current situation, 2009  
(Archive of ICHHTO of Shiraz)



Fig.6-87.q: Current situation, 2009  
(Archive of ICHHTO of Shiraz)

**Monitoring of Development**

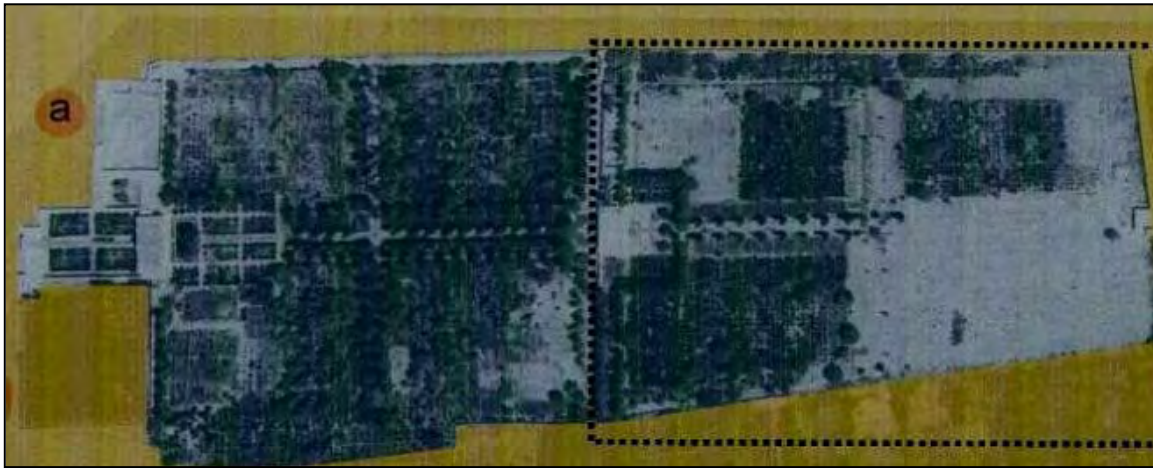


Fig.6-88. Aerial Photo-After 1963 (Archive of Research Center of Shiraz University)



Fig.6-89. Aerial Photo- Before 1963



Fig.6-90. Aerial Photo- Before 2009

**Monitoring of Tourism**



Fig.6-91. Tourism pressure in Nourooz period in *Bagh-e Eram*, (ICHHTO Archive)

Statistic on the Number of Visitors in *Bagh-e-Eram*

Month	Iranian visitor	Foreign visitors	Total
March-April	193512	314	<b>193826</b>
April-May	35521	1488	<b>37009</b>
May-June	40143	391	<b>40534</b>
June-July	26544	201	<b>26745</b>
July-August	56282	464	<b>56746</b>
August-September	17339	263	<b>17602</b>
September-October	21687	1160	<b>22847</b>
October-November	14490	251	<b>14741</b>
November-December	19573	218	<b>19791</b>
December-January	11130	124	<b>11254</b>
January-February	14302	159	<b>14461</b>
February- March	5502	208	<b>5710</b>
<b>Total</b>	<b>456025</b>	<b>5241</b>	<b>461266</b>

Fig .6-92. Visitor statistics of *Bagh-e Eram* 2008 (The Base of Persia Garden, Fars)

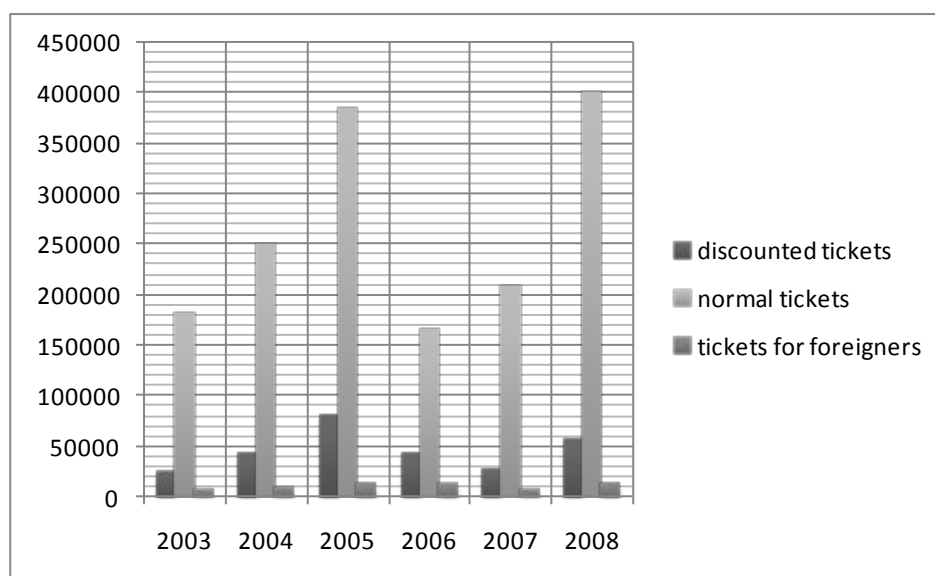


Fig.6-93. Diagram of visitors in *Bagh-e Eram*, 2003-2008 (The Base of Persia Garden, Fars)

***Bagh-e Chehel Sotun*****The outline of the Restoration and Conservation Activities in *Bagh-e Chehel Sotun*<sup>3</sup>:**

- Continuance of agriculture and gardening by preservation of trees plan and water courses
- Survey, photography, reconstruction and consolidation of four *Iwans* of the palace
- Survey on the western pool by excavation of western part of the garden
- Strengthening and isolation of roof of palace
- Cleaning and restoration of the paintings and other ornament periodically
- Construction, restoration of wooden elements like balustrades, columns, doors and windows
- Documentation of plants



Fig .6-94.1975, During the restorations (ICHHTO of Isfahan)



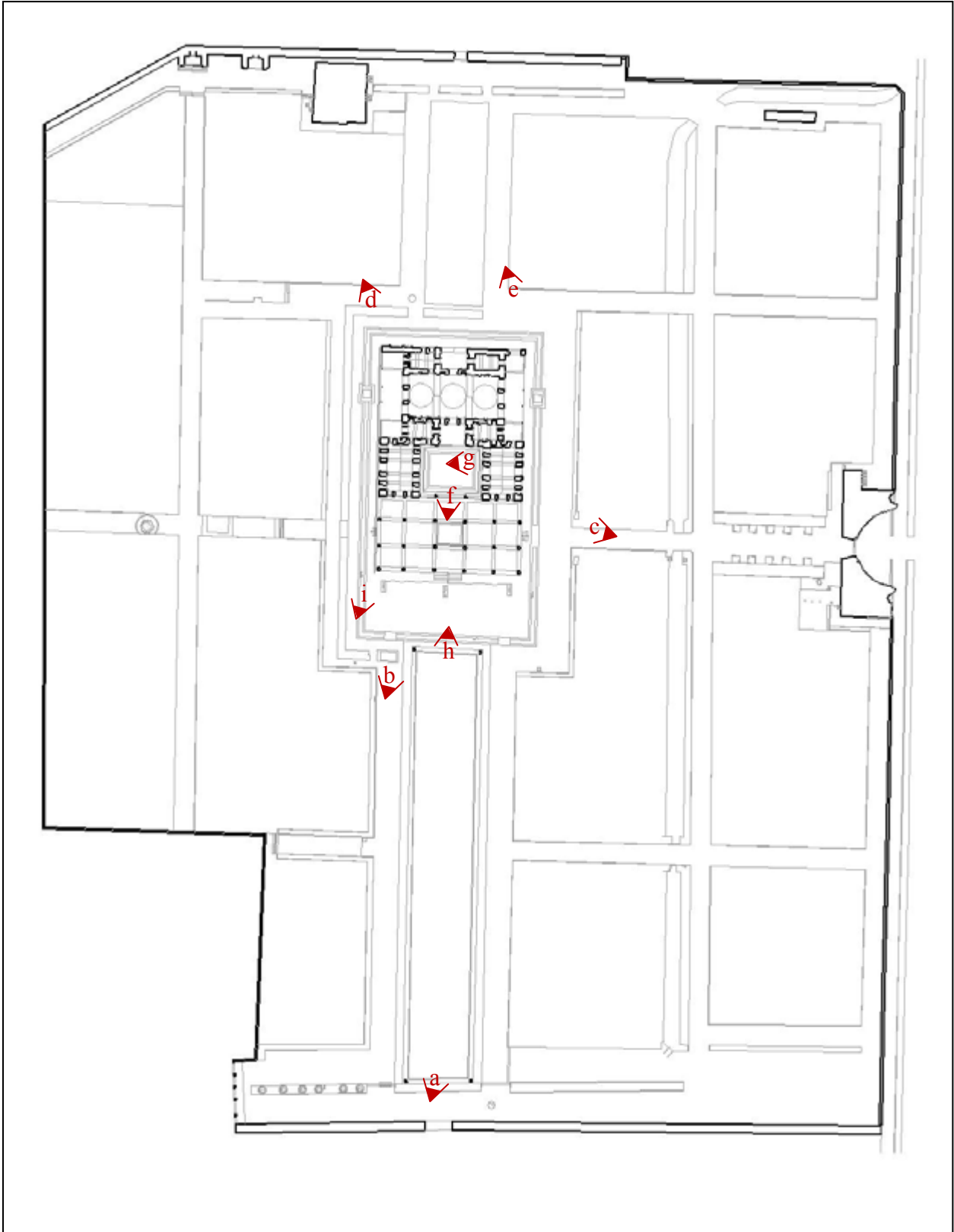
Fig.6-95.1958, During the restorations (ICHHTO of Isfahan)



Fig.6-96.1958, During the restorations (ICHHTO of Isfahan)

<sup>3</sup> A report of restoring action in Chehel Sotun palace from 1975 to 2006 is available on page 583 of this document.

**Key plan of Monitoring of Conservation and Restoration**





**Monitoring of Conservation and Restoration**



Fig.6-97.a.1980.(Isfahan ICHHTO)

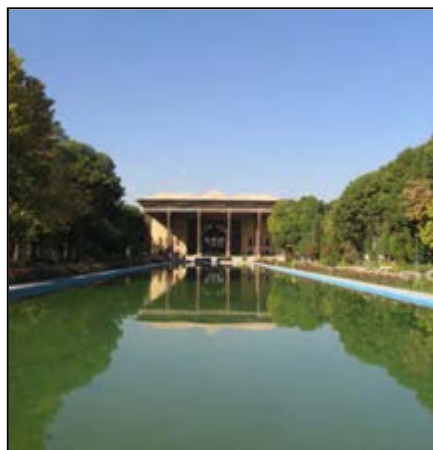


Fig.6-98.a. 2009. (Isfahan ICHHTO)

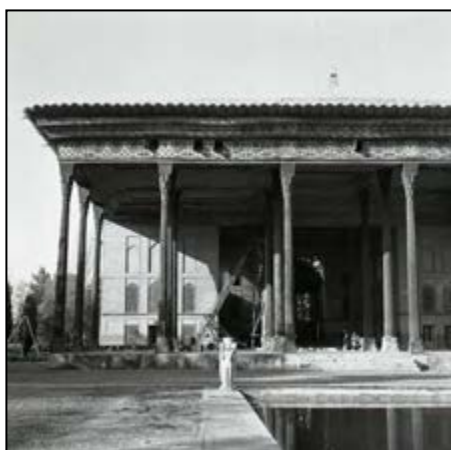


Fig.6-99.b.1972.(Isfahan ICHHTO)



Fig.6-100.b. 2009(Isfahan ICHHTO)



Fig.6-101.c.1980. (Isfahan ICHHTO)



Fig.6-102.c. 2009. (Isfahan ICHHTO)



Fig.6-103.d.1973. (Isfahan ICHHTO)



Fig.6-104.d. 2009. (Isfahan ICHHTO)



Fig.6-105.e.1973. (Isfahan ICHHTO)



Fig.6-106.e. 2009. (Isfahan ICHHTO)



Fig.6-107.f.1957. (Isfahan ICHHTO)



Fig.6-108.f.2009. (Isfahan ICHHTO)



Fig.6-109.g.1976. (Isfahan ICHHTO)



Fig.6-110.g.2009. (Isfahan ICHHTO)



Fig.6-111.h.1958. (Isfahan ICHHTO)



Fig.6-112.h.2009.(Isfahan ICHHTO)

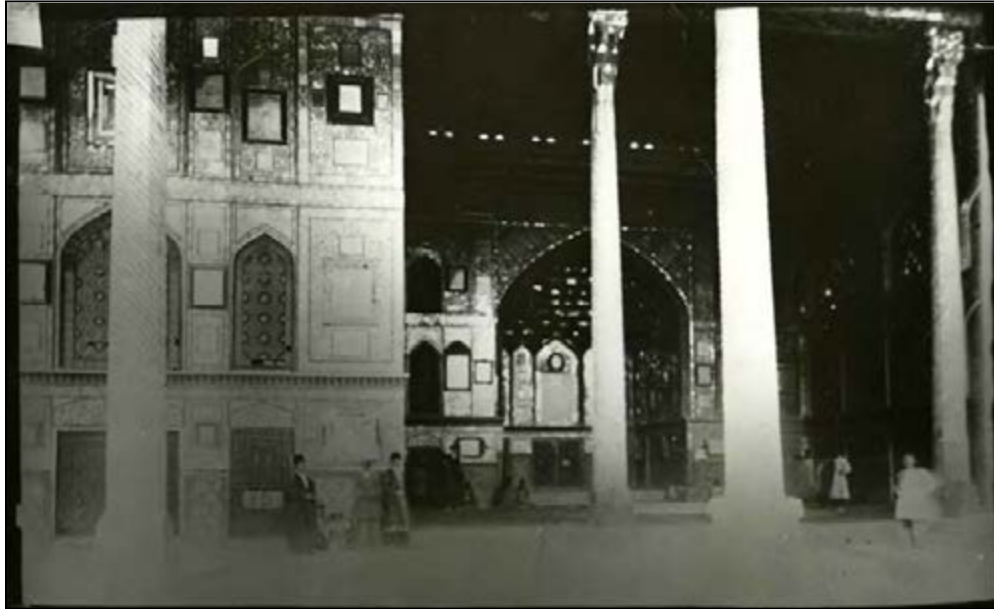


Fig.6-113.i.Qajars era. (Isfahan ICHHTO)



Fi.6-114. i.2009. (Isfahan ICHHTO)

**Monitoring of Development**



Fig.6-115. Aerial Photo-1956 (National Cartographic Center in Iran)



Fig.6-116. Aerial Photo-1969 (National Cartographic Center in Iran)



Fig. 6-117. Aerial Photo-1975(National Cartographic Cente in Iran)



Fig. 6-118. Aerial Photo-1996(National Cartographic Cente in Iran)



Fig.6-119. Aerial Photo-2009 (Google Earth)

Statistic on the Number of Visitors in *Bagh-e Chehel Sotun*

Month	Iranian visitors	Foreign visitors	Total visitors
March-April	92223	2766	94989
April-May	30630	3694	34324
May-Jun	19675	1625	21300
Jun-July	27937	1175	29112
July-August	47431	2427	49858
August-September	58217	1921	60138
September-October	14601	3321	17922
October-November	10369	1972	12341
November-December	8070	521	8591
December-January	8699	951	9650
January-February	17393	553	17946
February-March	12366	568	12934
<b>Total</b>	<b>347611</b>	<b>21494</b>	<b>369105</b>

Fig.6-120. Statistic on the number of visitors, year 2003

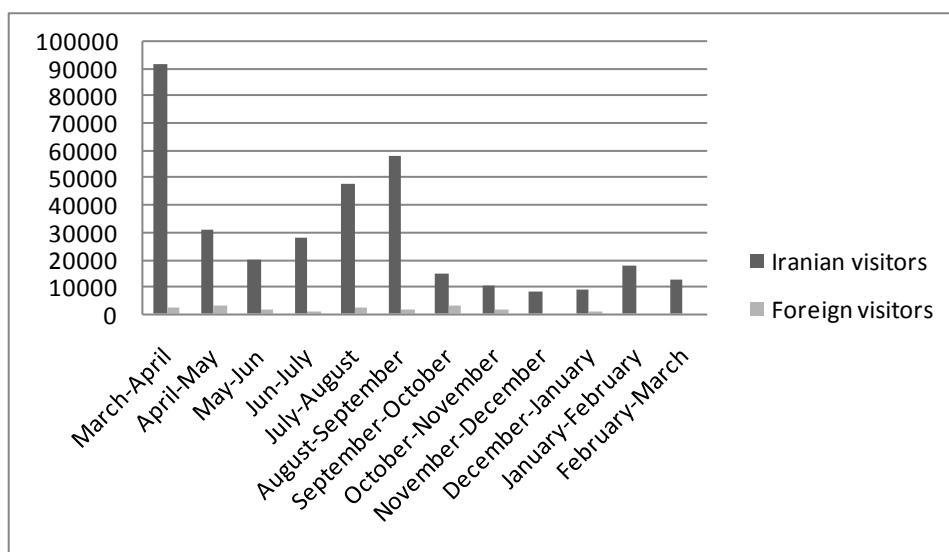


Fig.6-121. Diagram of the number of visitors, year 2003



Month	Iranian visitors	Foreign visitors	Total visitors
March-April	169102	1754	170856
April-May	19204	2655	21859
May-Jun	17540	945	18485
Jun-July	24118	784	24902
July-August	37375	1125	38500
August-September	50396	1245	51641
September-October	5668	1023	6691
October-November	20115	1384	21499
November-December	8020	766	8786
December-January	6062	1020	7082
January-February	6605	637	7242
February-March	17734	958	18692
<b>Total</b>	<b>481939</b>	<b>14296</b>	<b>496235</b>

Fig.6-122. Statistic on the number of visitors, 2006

Month	Iranian visitors	Foreign visitors	Total visitors
March-April	173063	3022	176085
April-May	25764	3798	29562
May-Jun	23833	1445	25278
Jun-July	27225	1961	29186
July-August	64110	1346	65456
August-September	62489	990	63479
September-October	14902	1585	16487
October-November	17577	2728	20305
November-December	10405	565	10970
December-January	5990	671	6661
January-February	7577	1165	8745
February-March	14464	1773	16237
<b>Total</b>	<b>447399</b>	<b>21049</b>	<b>468451</b>

Fig.6-123.Statistic on the number of visitors, 2007

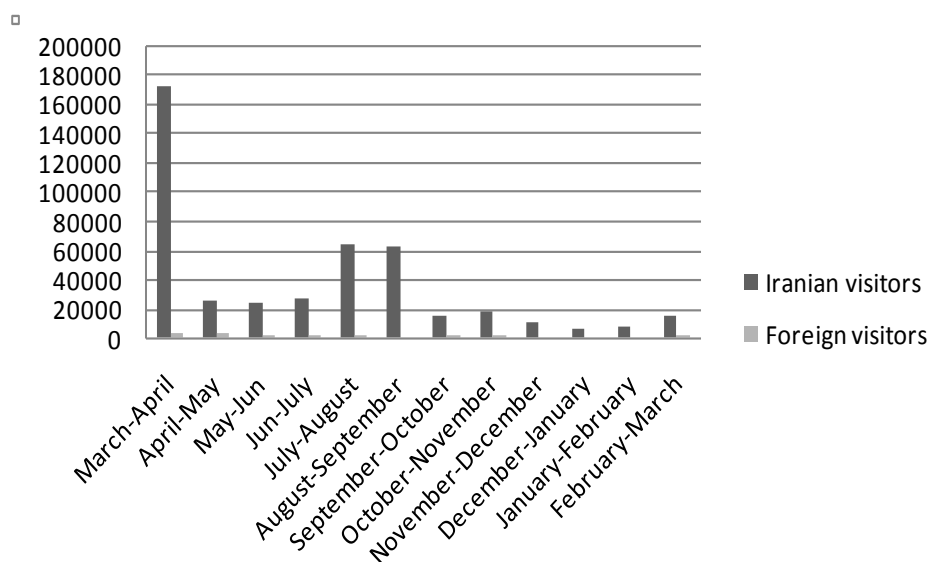


Fig.6-124.Diagram of the number of visitors, 2007

Month	Iranian visitors	Foreign visitors	Total visitors
March-April	223140	6114	229254
April-May	45158	6340	51498
May-Jun	23353	2387	25740
Jun-July	33212	1916	35128
July-August	50508	2260	52768
August-September	28398	1281	29679
September-October	19085	3172	22257
October-November	15639	2799	18438
November-December	11197	824	12021
December-January	8744	987	9731
January-February	9191	910	10101
February-March	18921	940	19861
<b>Total</b>	<b>486546</b>	<b>29930</b>	<b>516476</b>

Fig.6-125. Statistic on the number of visitors, 2008

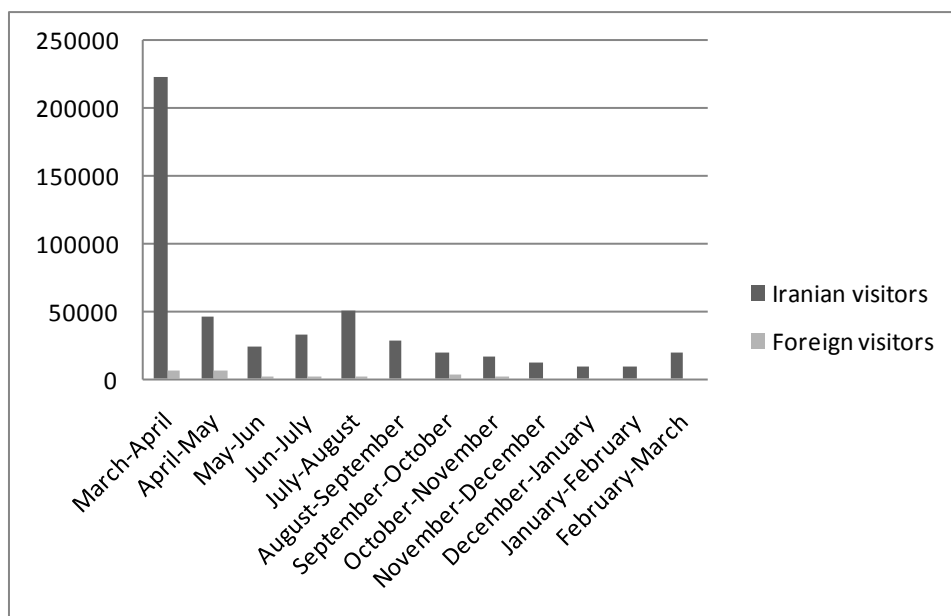


Fig .6-126.Diagram of the number of visitors, 2008

***Bagh-e Fin*****Outline of the Restoration and Conservation Activities in *Bagh-e Fin*<sup>4</sup>:**

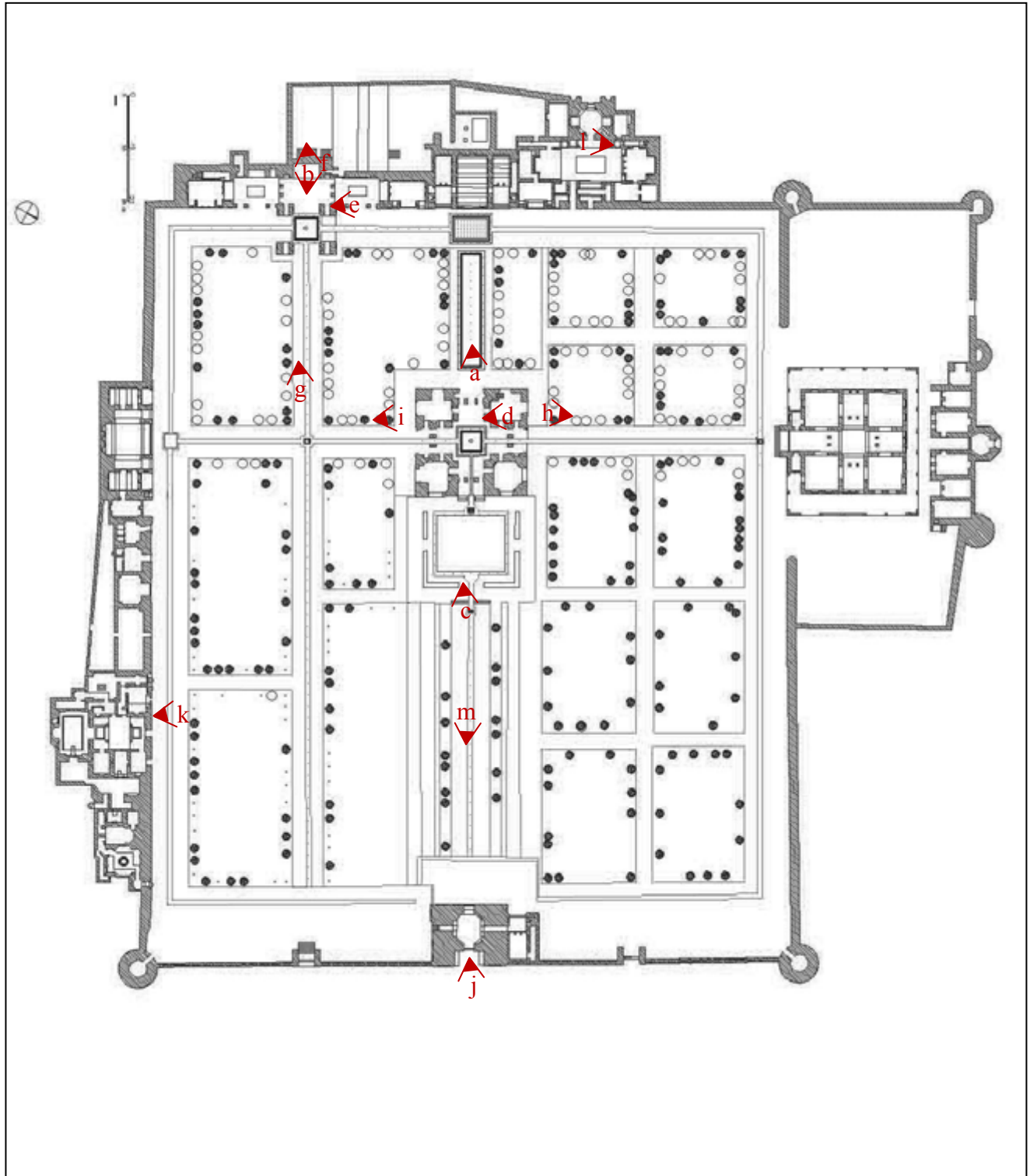
The most important conservation and restoration activities as well as researches during 1997-2009 that were conducted in the nominated garden are:

- Consolidation and removing the cracks of the body and roofs of different parts
- Conservation and organizing parts of large and small *Hammam* (baths)
- Conservation of *QajarisShotor- Glalu*
- Providing visitor facilities in *Chaykhaneh* (traditional teahouse)
- Installing a guard station in the upper part of the stairs in front of the museum basement
- Maintaining the restoration of *Qajaris Shotor- Galu* paintings
- Making canals for preventing damp in the walls behind the garden in that part.
- Starting conservation of the operations of excavated parts and *Badgir* inside *Qajaris shotor- Galu*
- Performing the conservation activities in some parts of stone pavements of the garden
- Restoring Brick façade on supporting pillars and behind the portico of *Khalvat-e Karimkhani* yard
- Performing researches for irrigating system of the garden
- Research about the historic irrigating system based on especial mechanized robot movements and computer and recognizing the damages in the system

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<sup>4</sup> For comprehensive information see page590 on part 4 a. of this document

**Key plan of Monitoring of Conservation and Restoration:**



**Monitoring of Conservation and Restoration**



Fig.6-127.a:Qajars era (NHBI, Base)



Fig.6-128.a: 2009 (Khoshnood)



Fig.6-129.b:1900s (NHBI,Base)



Fig.6-130.b: 2009 (Khoshnood)



Fig.6-131.c:1900s (NHBI ,Base)



Fig.6-132.c:(NHBI,Base)

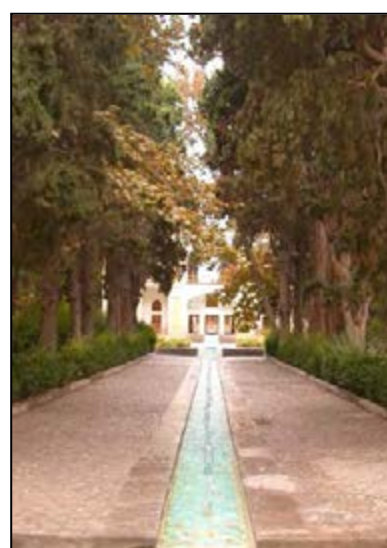


Fig.6-133.c: 2009 (Khoshnood)



Fig.6-134.c:Qajar



Fig.6-135.c: 2009 (Khoshnood)



Fig.6-136.d:1930s (NHBI,Base)

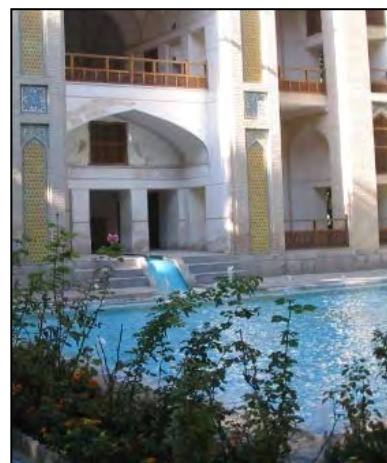


Fig.6-137.d:2009 (Khoshnood)



Fig.6-138.d: Qajars era  
(Jyhani,2006)

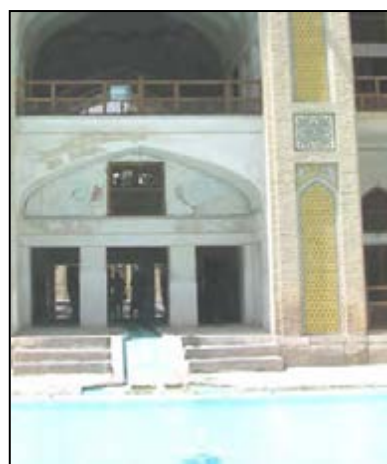


Fig.6-139.d:2009  
(Khoshnood)

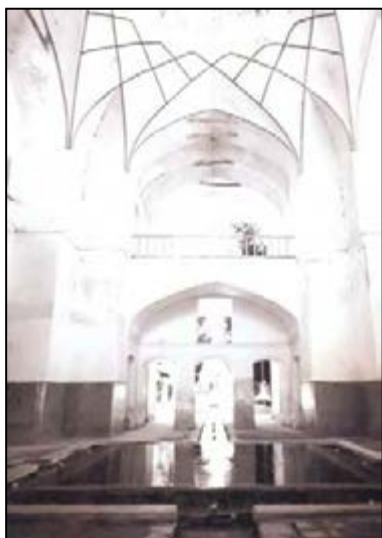


Fig.6-140.e:Qajars era  
(Jeihani,2006)



Fig.6-141.e:2009 (Khoshnood)



Fig.6-142.f: Pahlavis era  
(NHBI,Base)

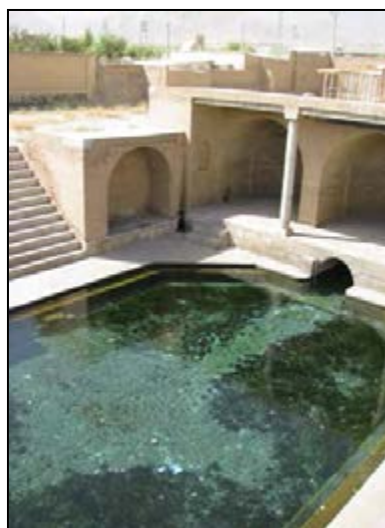


Fig.6-143.f: 2009 (Khoshnood)



Fig.6-144.g: Pahlavis era  
(NHBI,base)



Fig.6-145.g: 2005 (NHBI, Base)



Fig.6-146.g: 2009(Khoshnood)





Fig.6-147. h: Pahlavis era ( NHBI,Base)



Fig.6-148.h: 2009 (Khoshnood)



Fig.6-149.i.Pahlavis era  
(NHBI,Base)



Fig.6-150.i:2009 (Khoshnood)



Fig.6-151.i: 1900s (NHBI,Base)

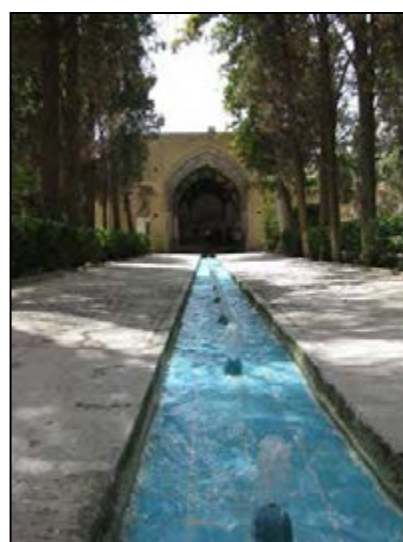


Fig.6-152.i:2009(Khoshnood)



Fig.6-153.j: Pahlavis era  
(Jehani,2006)



Fig.6-154.j:2009 (Khoshnood)



Fig.6-155.l: Pahlavis era (Jehani,2006)



Fig.6-156.l:2009 (Khoshnood)

**Monitoring of Development**



Fig.6-157:Aerial Photo-2009(Google Earth)

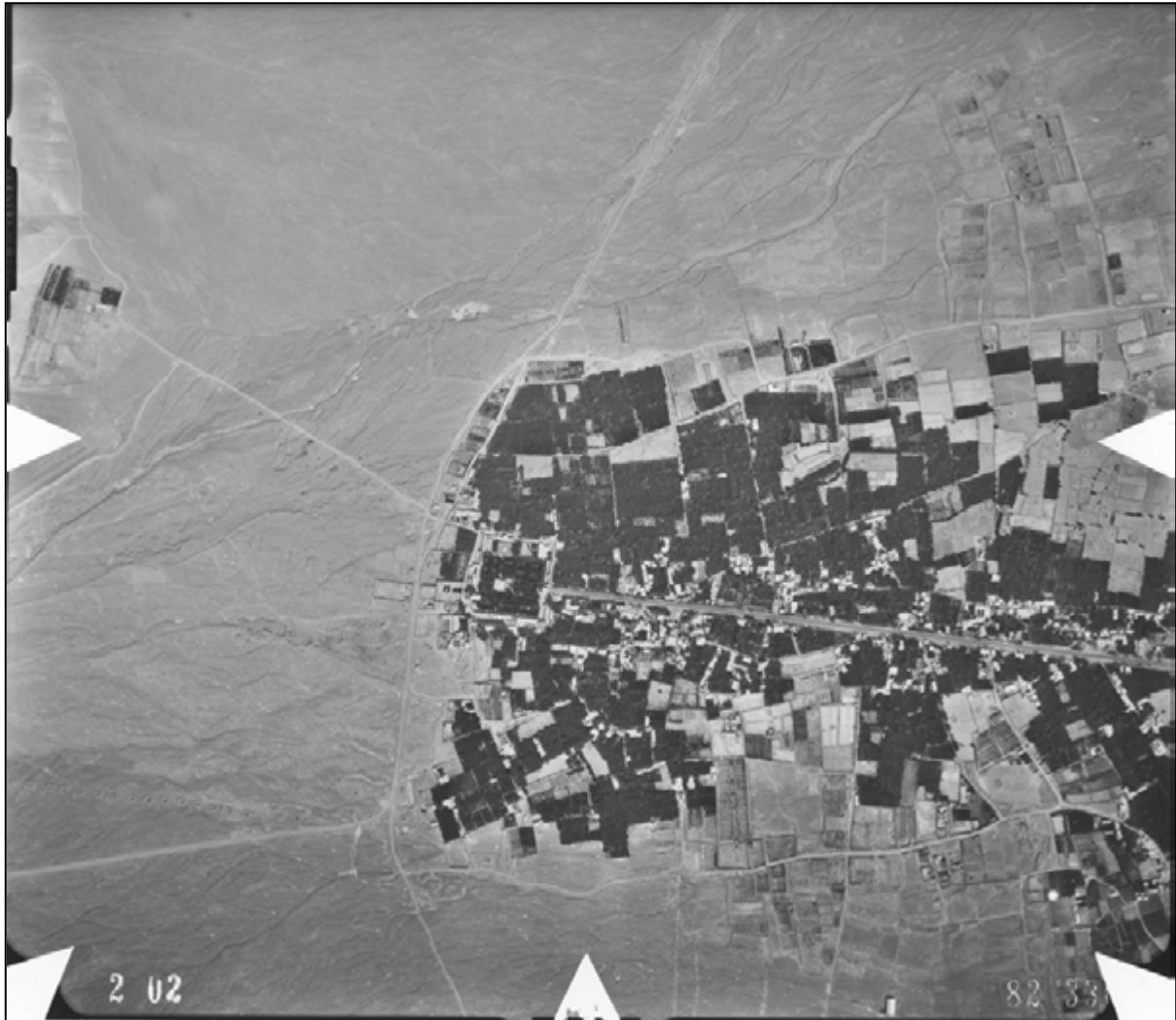


Fig.6-158: Aerial Photo-1982 (National Cartographic Cente in Iran)

**Monitoring of Tourism**



Fig.6-159. Visitor monitoring in Howz-e Davazdah Favare (12 waterwheel pool) (Khoshnood,2009)



Fig.6-160. Visitor monitoring in Howz-e Joosh (Khoshnood,2009)



Fig.6-161. Visitor monitoring in front of bathroom 's entrance (Khoshnood,2009)



Fig.6-162. Visitor monitoring in front of Bagh-e Fin entrance (Khoshnood,2009)



Fig.6-163. Visitor monitoring in front of *Bagh-e Fin* entrance (Khoshnood, 2009)



Fig.6-164. Visitor monitoring inside Safavids Kushk (Khoshnood,2009)

Other point



Fig.6-165. The sessions (Khoshnood)



Fig.6-166. The sessions (Khoshnood)

Statistic on the Number of Visitors in *Bagh-e Fin*

February March	January February	December January	November December	October November	September October	August September	July August	June - July	May - June	April May	March April	Year
4823	3450	3000	4800	8850	11027	30600	19500	14767	17400	34700	68150	1999
19195	9865	11816	5645	22758	4768	47364	23705	13800	13200	51850	52900	2000
18975	11214	10540	5120	18770	24620	6275	21820	16750	25560	77174	73910	2001
17720	12935	10790	8640	20415	332258	38100	30040	16876	34945	64820	66144	2002
13320	20267	10286	10615	9968	31437	42585	31315	22080	48535	94050	106890	2003
27720	14165	9890	11300	6750	36815	59595	37435	32443	67620	94310	117665	2004
24900	11930	12700	18850	50200	33650	68500	46500	26750	135500	206050	185603	2005
20005	8115	7900	9913	47600	8925	95685	31401	31471	55951	92000	197967	2006
18885	5694	5835	16675	21273	16556	66057	60545	21835	62100	244200	195175	2007
45189	33814	17264	28318	27527	43395	50055	98076	45263	103757	167494	264685	2008

Fig.6-167. Statistic on the number of total visitors .1999-2008

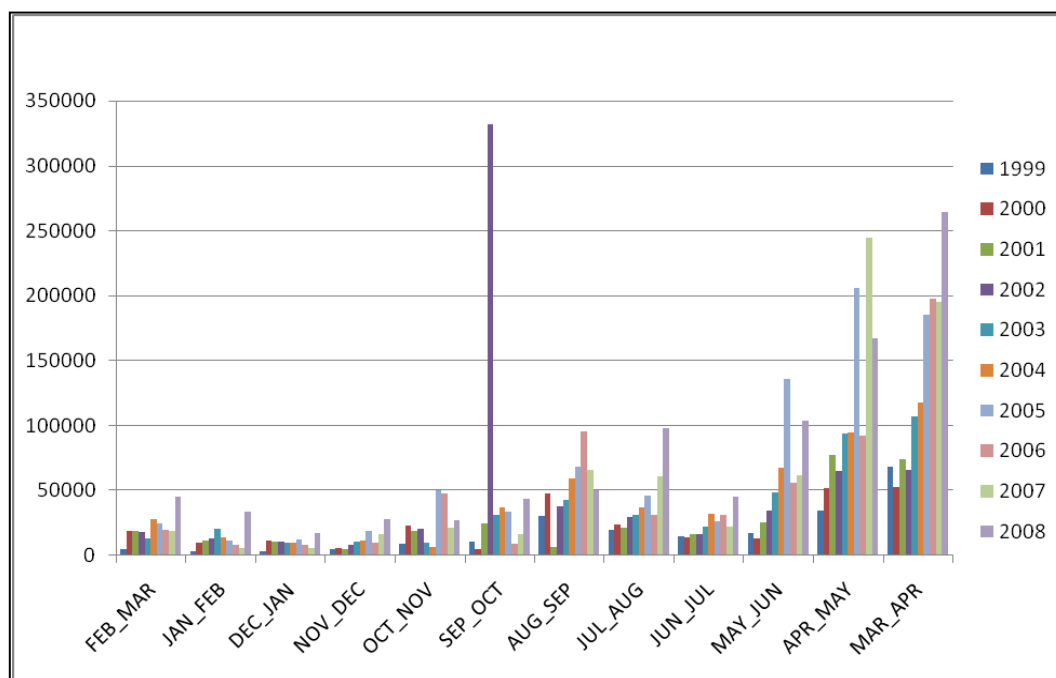


Fig.6-168. Total visitors (ICHHTO in Kashan)

Year	March April	April May	May - June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1999	67300	33700	17000	14500	18500	30000	10000	8000	4500	2700	3300	4500
2000	52000	48700	12500	13500	22800	46569	4695	21293	5200	11351	9510	18419
2001	71402	71985	24260	16180	20790	35135	23615	18970	5000	10400	11120	18725
2002	65600	63310	33925	16230	29180	37180	31675	19765	8440	10625	12750	17470
2003	106480	92935	48325	21690	30965	42185	30927	9618	10405	10026	19887	12770
2004	116915	92835	65970	31500	37435	59595	36815	6220	10930	9450	13690	27080
2005	184109	203402	134200	26100	45600	67550	32550	49520	18295	12330	11624	24560
2006	197296	90700	55539	31237	31210	94980	7818	46780	9527	7585	7925	19460
2007	192595	242104	61680	21635	59936	45457	15553	20111	15909	5532	5519	18771
2008	263505	165459	103052	44782	97431	49558	41185	26617	28021	16948	33372	44458

Fig.6-169.Statistic on the number of Iranian visitors .1999-2008

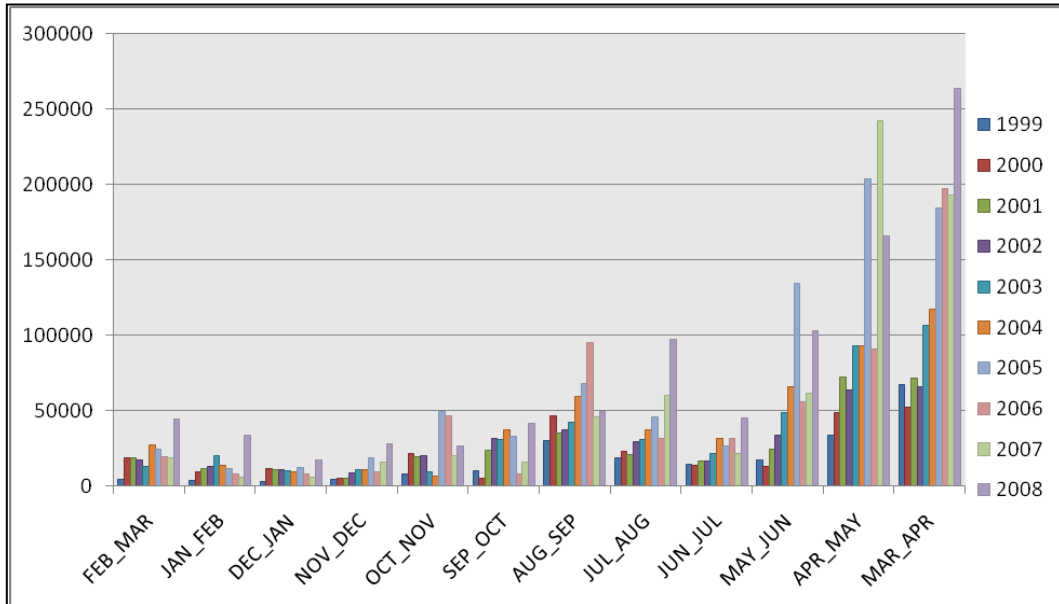


Fig.6-170. Iranian visitors (ICHHTO in Kashan)

Year	March April	April May	May - June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1999	850	1000	400	267	1000	600	1027	850	300	300	150	323
2000	900	3150	700	300	905	795	73	1465	445	465	355	776
2001	2508	5189	1300	570	1030	1140	1005	800	120	140	94	250
2002	544	1510	1020	646	860	920	1550	650	200	165	185	250
2003	410	1115	210	390	350	400	510	350	210	260	380	550
2004	750	1475	1350	943	-	-	-	530	370	440	475	640
2005	1494	2648	1300	650	900	950	1100	680	555	370	306	340
2006	671	1300	412	234	191	705	1115	815	386	315	190	545
2007	2580	2096	420	200	609	600	1003	1162	766	303	175	114
2008	1180	2035	705	481	645	497	2210	910	297	316	442	731

Fig.6-171.Statistic on the number of foreign visitors .1999-2008



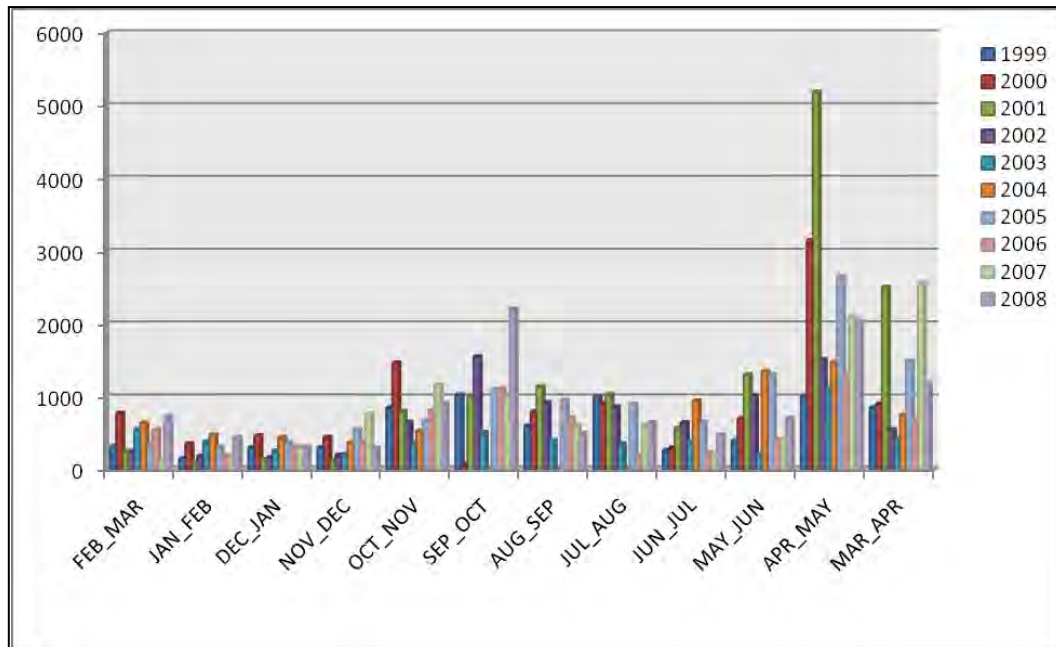


Fig.6-172. Foreign visitors (ICHHTO in Kashan)

**Plan of the Crowd of Visitors**

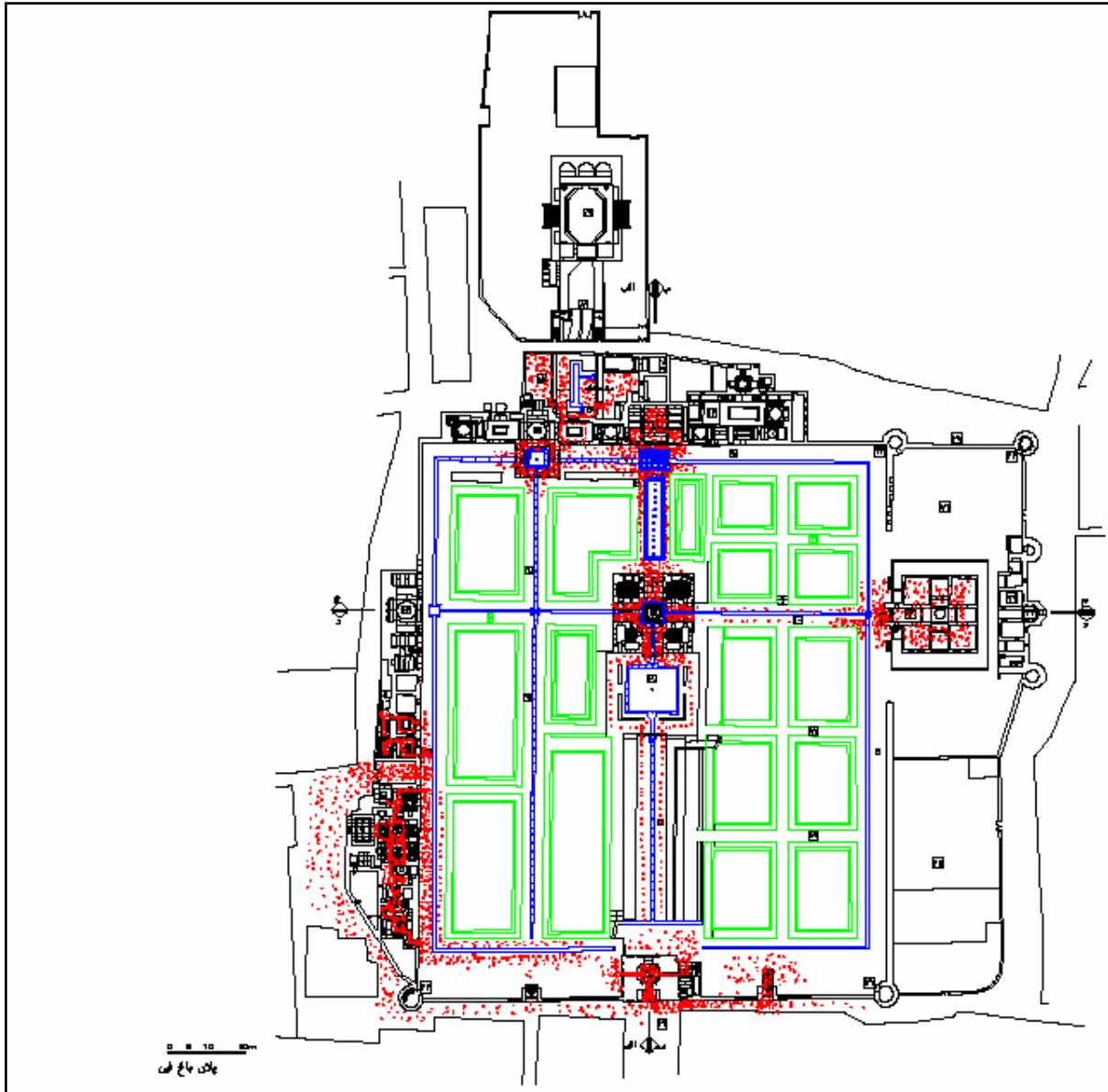


Fig.6-173. Plan of the crowd of visitors inside and outside the garden.(March-May)

**Statistic on the Meteorology of *Kashan***

Year	March April	April May	May June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	24.7	32	37.9	39.1	39.4	37.9	30.9	19.6	12.9	11.8	12.5	18.3
1999-2000	27.4	33.3	37.2	40.9	39.5	37.9	26.7	18.9	12.1	13	10.1	19.8
2000-2001	28.1	32.2	36.3	40.3	40	36.6	30.9	22.5	12.7	13	14.3	20.5

Fig.6-174. Statistic of Max temperature

Year	March April	April May	May - June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	9.5	16.5	21.6	24.1	23.5	21.5	14.9	7.9	2.7	0.6	0.3	3.9
1999-2000	12.8	17.6	20.8	25.4	23	21.8	13.8	8.2	3.9	1.5	-0.3	5.9
2000-2001	12.4	16.9	20.5	25	23.3	21.1	15.6	8.9	4.4	2.7	2.1	6.4
2001-2002	11	15.1	21.1	24.6	25.2	21.8	17.3	10.2	2.7	1.1	2.7	5
2002-2003	10.8	14.3	20	26.4	25.3	20.9	16	9.4	3.3	2.7	3.4	6
2003-2004	9.5	14.1	20.3	24.2	27.4	21.5	14.3	9.3	0.8	-1	-1.4	5.9
2004-2005	8.4	16	19.9	25.8	24.5	21	15.7	6.8	3.1	-0.7	2.3	5.8
2005-2006	12.4	17.6	20.1	25.8	24.1	19.5	15.7	9	0.1	-3	0.7	3.8
2006-2007	9.3	15.4	22.4	25.1	24	19.6	13.4	8	2.1	-7.6	-5.1	5.2
2007-2008	12.5	16.6	21.6	25.8	23.6	20.8	15.9	8	2.4	-1.3	2.5	6

Fig.6-175. Statistic of Min temperature

Year	March April	April May	May June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	0.7	17.3	0	2.4	0	0	0.5	23.6	14.1	0	10.1	0.6
1999-2000	0.5	2.1	0	0	0	0	30.9	35.6	54.8	9.7	37.4	6.4
2000-2001	2.6	9.3	1	0	0	3	0	2.3	24.7	14.9	2.6	4.4

Fig.6-176. Statistic of rain

Year	March April	April May	May June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	17	17	9	13	11	13	14	35	40	32	27	14
1999-2000	14	12	12	11	10	18	32	36	57	38	50	25
2000-2001	21	28	25	20	15	15	22	32	54	41	33	22
2001-2002	32	25	16	19	16	17	23	35	50	34	43	32
2002-2003	31	24	21	16	15	20	19	26	44	55	27	28
2003-2004	26	22	15	13	14	17	21	31	42	50	43	28
2004-2005	16	16	12	12	12	14	14	31	30	45	37	18
2005-2006	18	16	14	15	16	14	19	30	50	46	32	30
2006-2007	31	20	12	14	12	10	16	18	34	56	58	23
2007-2008	17	20	17	14	10	15	22	41	42	37	40	18

Fig.6-177. Statistic of Max of moisture

Year	March April	April May	May June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	50	50	26	34	32	33	41	69	74	70	67	47
1999-2000	44	36	32	25	28	37	65	70	86	77	84	62
2000-2001	52	55	47	41	36	38	50	65	81	77	66	53
2001-2002	70	59	38	39	35	38	45	70	79	67	77	71
2002-2003	64	55	48	35	33	38	42	59	75	83	66	62
2003-2004	72	68	44	36	34	40	49	69	84	89	87	78
2004-2005	61	53	40	33	33	38	51	70	71	85	85	58
2005-2006	63	50	38	36	36	37	39	69	82	86	79	76
2006-2007	75	60	37	40	33	33	45	47	76	81	86	60
2007-2008	51	46	37	34	29	37	47	81	84	81	84	58

Fig.6-178. Statistic of Min of moisture

Year	March April	April May	May - June	June - July	July August	August September	September October	October November	November December	December January	January February	February March
1998-1999	10	8	10	7	7	5	8	4	4	4	10	12
1999-2000	12	15	8	8	15	6	9	5	9	3	5	6
2000-2001	20	12	9	7	10	7	6	10	4	6	12	13
2001-2002	10	15	12	8	7	5	5	4	4	7	7	12
2002-2003	10	7	10	7	5	5	4	8	4	5	8	15
2003-2004	10	10	8	10	7	6	5	7	7	4	15	5
2004-2005	15	10	15	10	10	8	10	7	5	4	7	7
2005-2006	14	16	12	11	10	8	13	10	5	10	10	10
2006-2007	12	15	18	16	11	9	7	7	10	6	8	17
2007-2008	10	7	15	7	12	10	10	6	5	7	20	12

Fig.6-179. Statistic of wind speed

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2008	2007	2006	2005	2004	2003	2002	Year
234/23	289/54	297/62	306/4	289/8	292/6	293/9	<b>water level</b>

Fig.6-180. Statistic on the alteration of water level of Soleymanieh Springs

***Bagh-e Abas Abad*****Outline of the archeological researches and Conservation Activities Performed in *Bagh-e Abas Abad*<sup>5</sup>:**

- The archeological researches were done in the historical garden of *Abas Abad* in the *Hammam* in western part of the garden. These researches were done at this time to prevent the constructions and to show the architecture phenomenon as well as the sensitivity of the case (head of the board of control: Mohammad Jaafar Nikkhah).
- The archeological investigation in *Gol-Bagh* and eastern gate the researches of eastern gate that the northern gate remains and the way of access to the garden were to recognize (Board of control: the author: Abdolvahab Moosavi Nasab).

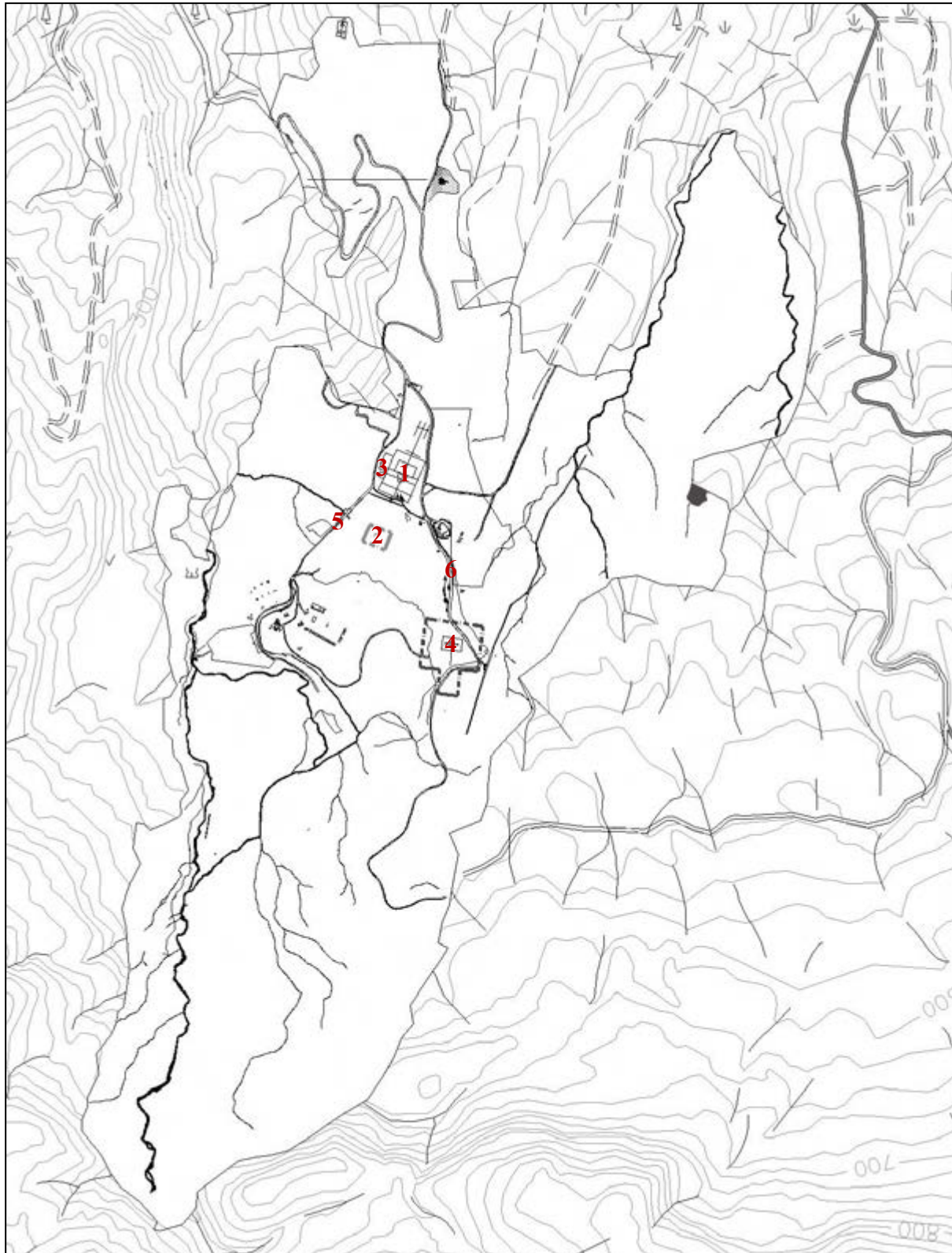
**The present conservation activities**

Steering committee of the base made and passed important decisions about the method of garden conservation. Finally, the conservation actions were performed based on the archeological findings during 10 years of researches in the historical garden of *Abbas Abad* in *Gol-Bagh* and its palace. The base continued to repair architectures discovered during archeological researches. For example, we can name the garden axes containing passages and open irrigating canals. In this method, the bricks are made in a new frame but their size and their material is original. In general, the eastern road (the main entrance of the garden), the northern road, and some parts of the southern roads have been unearthed completely.

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<sup>5</sup> For comprehensive information see page 596 on part 4 a. of this document

**Key plan of Monitoring of Conservation and Restoration**





**Monitoring of Conservation and Restoration  
1-Bagh**



Fig.6-181 .2008  
(Base of *Bagh-e Abas Abad*)



Fig.6-182 .2008  
(Base of *Bagh-e Abas Abad*)



Fig.6-183.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-184.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-185.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-186.2008 (Base of *Bagh-e Abas Abad*)

**2- Chahar Taqi**



Fig.6-187.Spring 2006  
(Base of *Bagh-e Abas Abad*)



Fig.6-188.Summer 2006  
(Base of *Bagh-e Abas Abad*)



Fig.6-189.Autumn 2006  
(Base of *Bagh-e Abas Abad*)



Fig.6-190.Winter 2006  
(Base of *Bagh-e Abas Abad*)



Fig.6-191.2008  
(Base of *Bagh-e Abas Abad*)



Fig.6-192.2008  
(Base of *Bagh-e Abas Abad*)

**3-Hammam (Bath)**



Fig.6-193.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-194.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-195.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-196.2008 (Base of *Bagh-e Abas Abad*)

**4-Gol Bagh (Chahar Bagh)**



Fig.6-197.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-198.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-199.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-200.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-201.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-202.2008 (Base of *Bagh-e Abas Abad*)

**5-Dam**



Fig.6-203.2006 (Base of *Bagh-e Abas Abad*)



Fig.6-204.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-205.2008 (Base of *Bagh-e Abas Abad*)



Fig.6-206.2008 (Base of *Bagh-e Abas Abad*)

**6-Towers**



Fig.6-207.2008  
(Base of *Bagh-e Abas Abad*)



Fig.6-207. 2008  
(Base of *Bagh-e Abas Abad*)



Fig.6-208. 2008 (Base of *Bagh-e Abas Abad*)



Fig.6-209. 2008 (Base of *Bagh-e Abas Abad*)

**Monitoring of Development:**



Fig.6-210. Aerial photo of *Bagh-e Abas Abad* (National Cartography Centre. NCC)

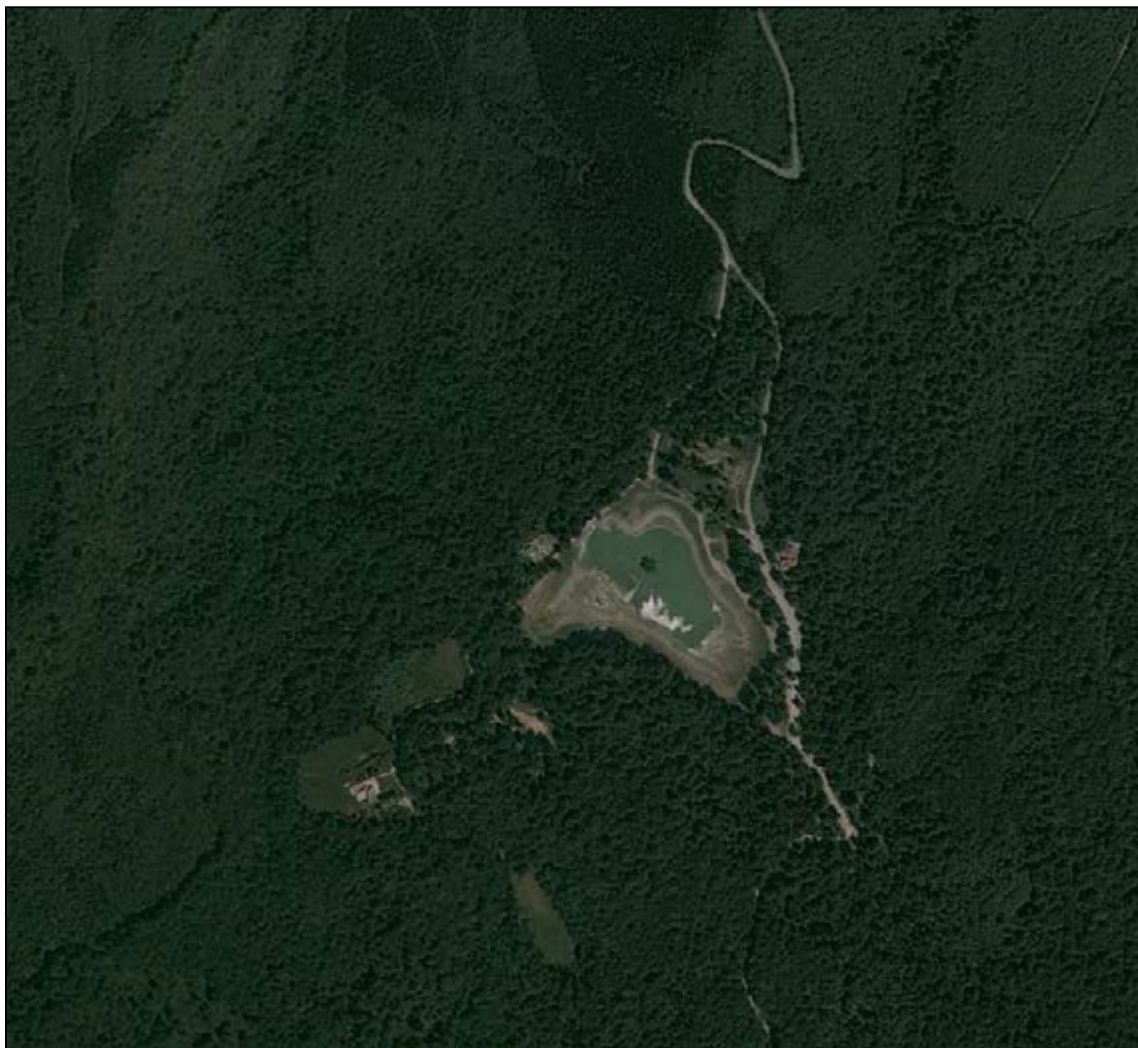


Fig.6-211.Arial photo of Bagh-e Abas Abad .2009



**Monitoring of Tourism**



Fig.6-212. tourism pressure in the pool space -2009



Fig.6-213. monitoring of visitors-2009

**Statistic on the Number of Visitors in *Bagh-e Abas Abad***

Year	Total visitors
2000	200000
2001	250000
2002	320000
2003	400000
2004	600000
2005	840000
2006	800000
2007	870000
2008	910000
2009	985000

Fig.6-214. Statistic on the number of total visitors. 2000-2009

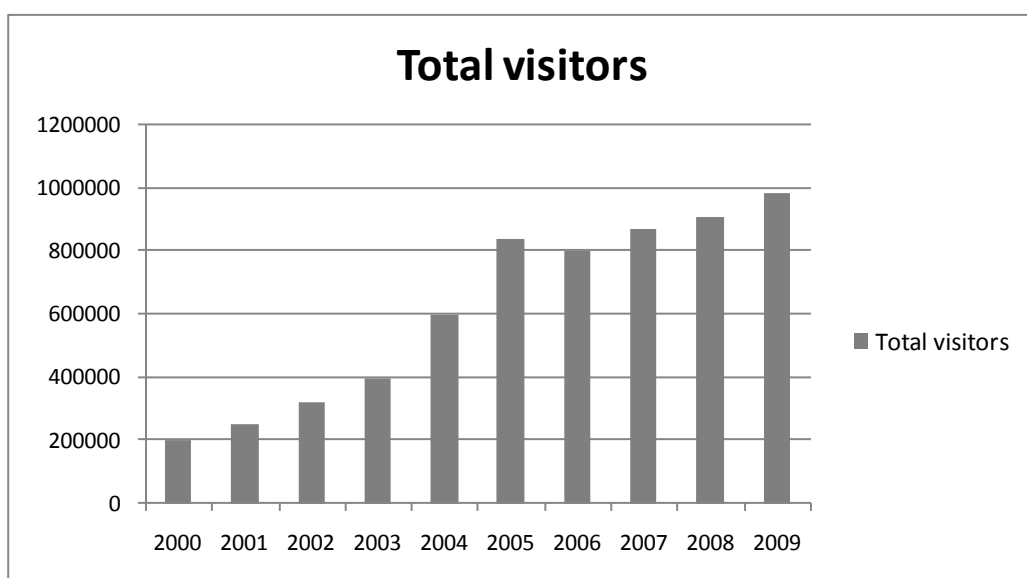


Fig.6-215. diagram of the number of total visitors.2000-2009

**Statistic on the Meteorology of Behshahr**

Temperature					Month
Average	Min	Max	Min average	Max average	
16.5	2.0	37.5	15	21.3	March-April
20.3	5.5	37.0	19.5	25.5	April-May
24.7	12.5	45.5	22.1	29.8	May-Jun
26.9	16.0	38	22.4	31.6	Jun-July
27.1	15.0	38.5	19	31.7	July-August
23.9	9.0	38	13.3	28.8	August-September
18.5	3.5	34.5	8.6	23.7	September-October
13.5	1.0	36.0	4.2	18.3	October-November
9.1	-3.5	28.5	2.6	14.0	November-December
7.1	-4.0	24.0	3	11.7	December-January
7.6	-5.5	34.5	5.1	12.3	January-February
9.5	-3.0	28.5	10.6	14	February-March

Fig.6-216.Tirtash station, 1981-2000 (Iran Metrological Organization)

Temperature					Month
Average	Min	Max	Min average	Max average	
11.5	1.2	26.5	6.3	16.6	March-April
10.9	1.4	24.6	6.5	15.3	April-May
19.5	7	35	13.3	25.7	May-Jun
21.2	10	33	15.8	26.6	Jun-July
22.5	13.4	33	17.2	27.8	July-August
19.8	13	31.4	15.6	24.0	August-September
19.9	8.5	32.4	13.9	26.0	September-October
12.7	3.2	25.6	8.0	17.3	October-November
3.9	-7.4	18	-0.3	7.5	November-December
4.2	-6	20	0.0	8.3	December-January
4.2	-8.5	18.2	-0.2	8.5	January-February
4.8	-8.5	22	-0.1	9.7	February-March

Fig.6-217. Kiasar station, 2002 (Iran Metrological Organization)

Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month
4/6	Jun-July	6/1	March April	8/5	December January	13/9	September October
6/1	July August	5/3	April-May	9/4	January February	12/1	October November
11/5	August September	4/2	May-Jun	8/1	February March	10/2	November December
22/2	Summer	15/6	Spring	26/0	Winter	36/2	Autumn

Fig.6-218. (Iran Metrological Organization) 1992-1964

Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month	Rainfall during a day (mm)	Month
20.2	Jun-July	37.2	March April	58.4	December January	85.5	September October
22.2	July August	28.4	April-May	57.9	January February	74.8	October November
62.3	August September	25.0	May-Jun	55.8	February March	60.8	November December
104.7	Summer	60.6	Spring	171.1	Winter	221.1	Autumn

Fig.6-219.(Iran Metrological Organization)2000-1981

### ***Bagh-e Shahzadeh***

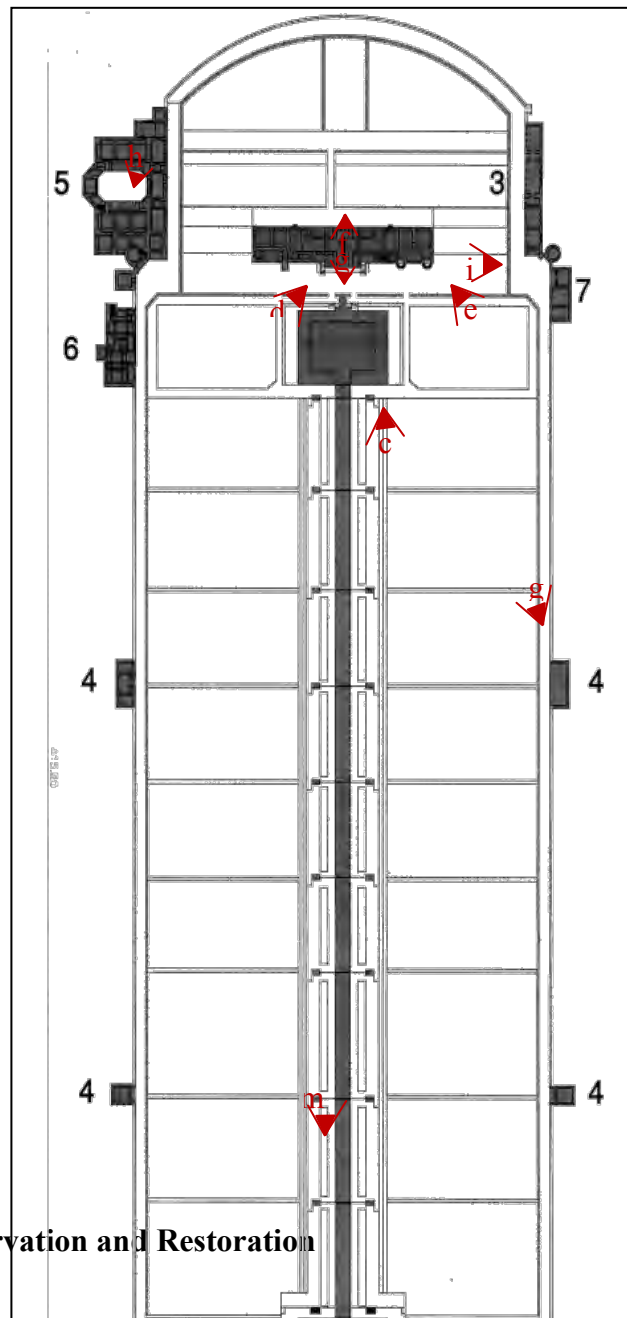
#### **Outline of Restoration, Conservation and Preservation Activities in *the Bagh-e Shahzadeh* from 1976 to 2009<sup>6</sup>:**

- Repairing doors and removing the stains of the plaster inside the *Shahneshin* building (along with starting the restoring of the second floor)
- Restoration of the external plinth of the outside façade
- Restoration of stairs, partitions, tabulations and water courses
- Maintenance of basins
- Restoration of the stone pavement of the whole garden
- Restoring the enclosure
- Restoring water courses
- Restoring the fountains
- Restoring of Zaeem Bashi house
- Restoring underground water canals outside the garden toward the upper basin

#### **Key plan of Monitoring of Conservation and Restoration**

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<sup>6</sup> For comprehensive information see page 600 on part 4 a. of this document



Monitoring of Conservation and Restoration

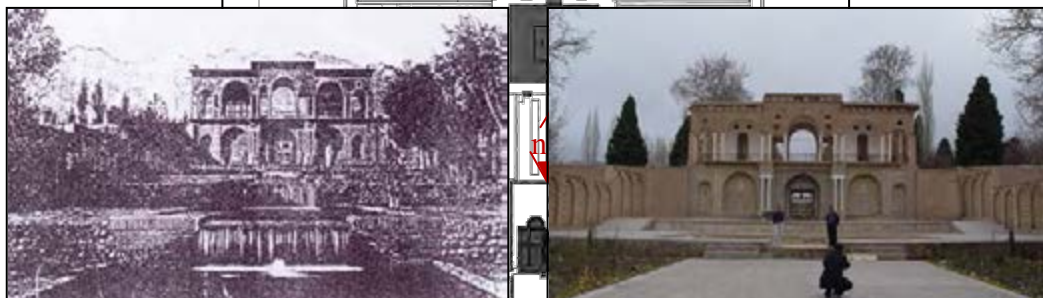


Fig.6-220. a: 1930s

a Fig. 6-221. a: 2005





Fig.229. d: 1980s



Fig. 6-230. d: 2009





Fig .6-237. h:1970s



Fig.6-238. h:2009







Fig. 6-245. l: 1980s



Fig. 6-246. l: 2009



Fig. 6-247. m: 1980s



Fig. 6-248. m: 2009



Fig. 6-249. n: 2000s



Fig. 6-250. n: 2009



Fig. 6-251. o 1980s



Fig. 6-252. o 2000

**Monitoring of Development:**



Fig.6-253. Aerial Photo-1980



Fig.6-254. Aerial Photo-2009

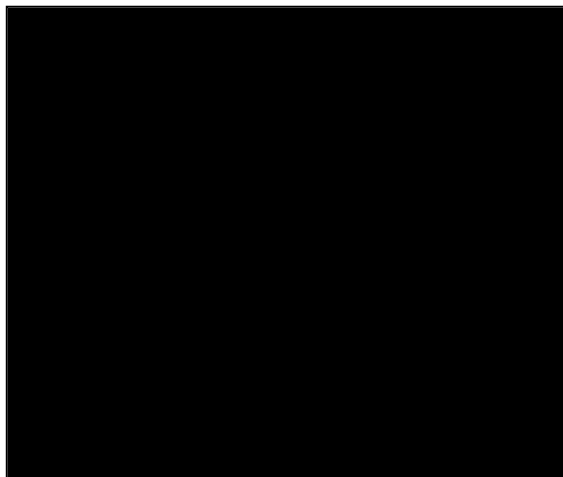


Fig.6-255. Aerial Photo-1980



Fig.6-256. Aerial Photo-2009

**Monitoring of Tourism:**



Fig.6-257.Bala Khaneh



Fig.6-258.Sardar Khaneh

**Statistic on the Number of Visitors in *Bagh-e Shahzadeh***

Number of visitors	Year
194790	1384 .A.D (2005-2006)
237505	1385.A.D(2006-2007)
214027	1386.A.D(2007-2008)
285434	1387.A.D(2008-2009)

Fig.6-259. Statistic on the number of visitors .2005 -2009

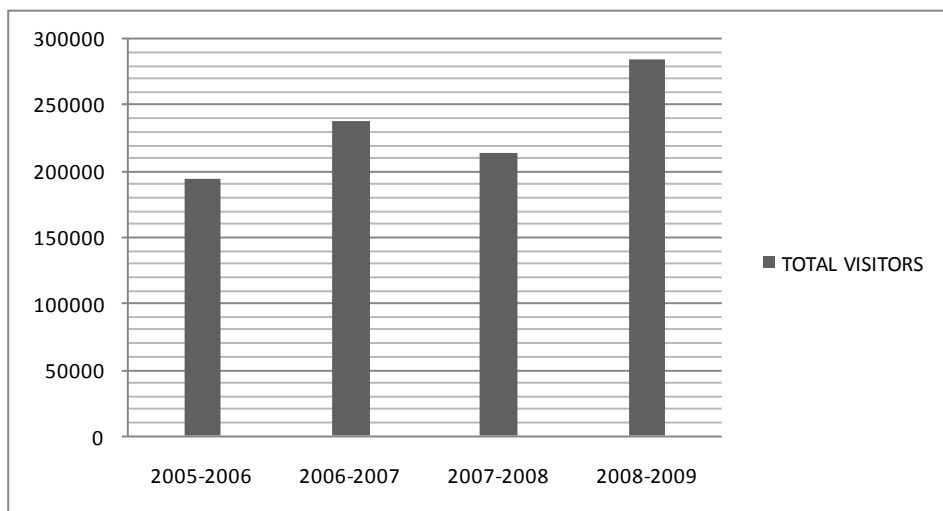


Fig.6-260.Diagram of visitors.2005-2009

Foreign visitors	Iranian visitors	Month
840	131979	March-April
1159	23998	April-May
311	15553	May-Jun
218	6818	Jun-July
511	28163	July-August
413	11839	August-September
902	11643	September-October
804	12745	October-November
160	10550	November-December
193	5618	December-January
60	10202	January-February
169	10589	February-March
<b>5740</b>	<b>279694</b>	<b>Total</b>

Fig.6-261. Statistic on the number of visitors 2008-2009

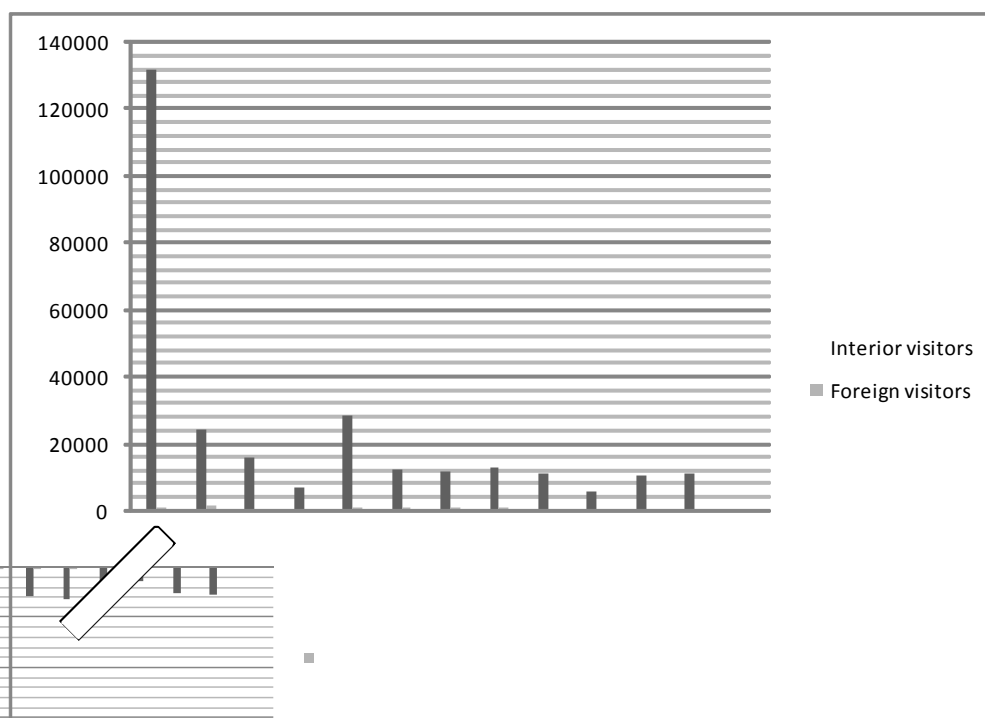


Fig.6-262. Diagram of visitors of Bagh-e Shahzadeh .2008-2009

**Statistic on the Meteorology of Kerman**

Proportional moisture			Freezing-weather days	Rainy days	Rain /millimeter	Temperature					Month
Average	Min	Max				Absolute min	Min average	Monthly average	Max average	Absolute max	
56	38/5	73	24	18	26/8	-15/1	-3/1	4/7	12/5	20/6	December-January
50	31/5	68	16/4	14/2	21/2	-13/1	-0/6	7	14/6	24/2	January-February
48	31/5	64/5	8/4	26/8	40	-8/6	3/2	10/5	17/7	29/7	February-March
38/5	23	54	0/8	12	17/9	-2/5	7/6	15/8	24	32/5	March-April
31	19	43	0	8/5	12/7	2/5	12	20/8	29/6	37/2	April-May
23	14	31/5	0	0/47	0/7	8/4	14/4	24/6	34/8	40/2	May-Jun
22/5	15	30	0	0/3	0/5	9/6	17/6	26/7	35/7	41/5	Jun-July
23/5	15	32	0	0/3	0/5	6/2	14/5	24/5	34/5	39/7	July-August
25	16	34	0	0/2	0/3	0/7	10/1	20/8	31/4	37/5	August-September
33	19	46/5	1/8	3	4/5	3/8	5/5	15/8	26/1	33/1	September-October
38/5	24	53	14/8	1/6	2/5	-10/1	1/5	10/7	19/9	27/7	October-November
48	32	64	22/6	14/4	21/5	-14/3	-2/1	6/5	15/2	26/6	November-December
36	23	49	88/6	100	149/1	-15/1	6/7	15/7	24/7	41/5	yearly

Fig.6-263.Statistic on Meteorology of Kerman. 2002 (Annual statistic of Kerman)

Description	Mag	Coordinates	Place	Date
4000 wounded , killed person 1071 subside of earth	6/8	E57/7 N29/9	Golbaft	Jun 11 1981
25000 wounded 915 , killed person1300 ruins. 85% ,homeless	7/1	E57/8 N30	Sirch	Jun 28 1981
85 wounded30000 , killed person 43200 ruins %	6/6	E58/31 N28/99	Bam	December 26 2003

Fig.6-264. Statistic on the seismology of Kerman

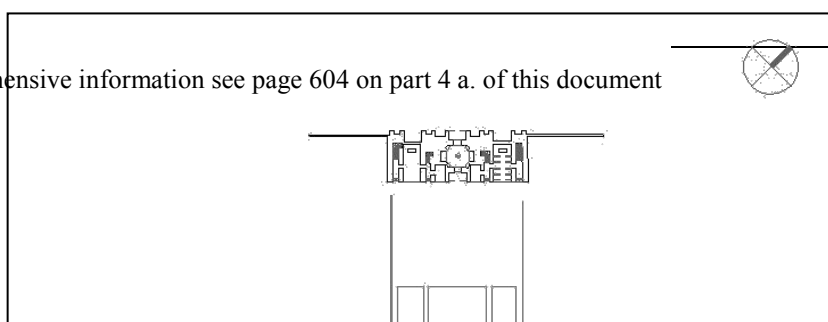
***Bagh-e Dolat Abad***

### Outline of the Restoration and Conservation Activities in *Bagh-e Dolat Abad*<sup>7</sup>:

- Consolidation of foundations in the Mirror Hall (Talar-e Ayeneh)
- Restoration of the *Badgir*
- Restoring the brick cover of the *Hashti* (entrance) Dome
- Restoring the surrounding wall of the garden
- Restoring of Hasht-o nim Hasht *Hall* and *Badgir* (ventilation) behind the Hall
- Restoring of external facade of the building
- Restoring arches and plasters inside the building
- Consolidation of arches and walls of the *Tehrani Hall*, *Sabat* and Cistern
- Restoring stall of the Hall and the *Badgir* and plastering of clay and straw and whitening Internal space of the building- Restoring of arches of both sides of the Hall
- Excavating, Restoring and restoring of the entry of the water course into the garden
- Restoring of north facade of the building and installing 16 windows in Talar-e Ayeneh.
- Restoring of the internal façade of Haramkhane
- Restoring the north western facade of *Shotorkhan* and repairing its ceiling
- Restoring the fireplace on the east portico of *Badgir* building
- Reorganizing the area in front of the *Badgir* building such as little gardens and sidewalks

### Key plan of Monitoring of Conservation and Restoration

<sup>7</sup> For comprehensive information see page 604 on part 4 a. of this document



**Monitoring of Conservation and Restoration**



Fig. 6-265. a: 1970s



Fig.6-266.a: 2009



Fig. 6-267. b: 1970s

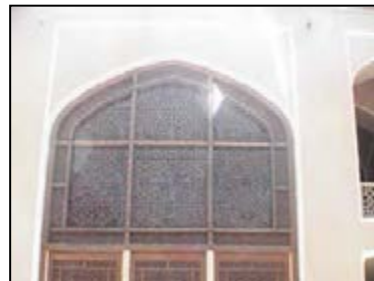


Fig.6-268. b: 2009









**Monitoring of Development**

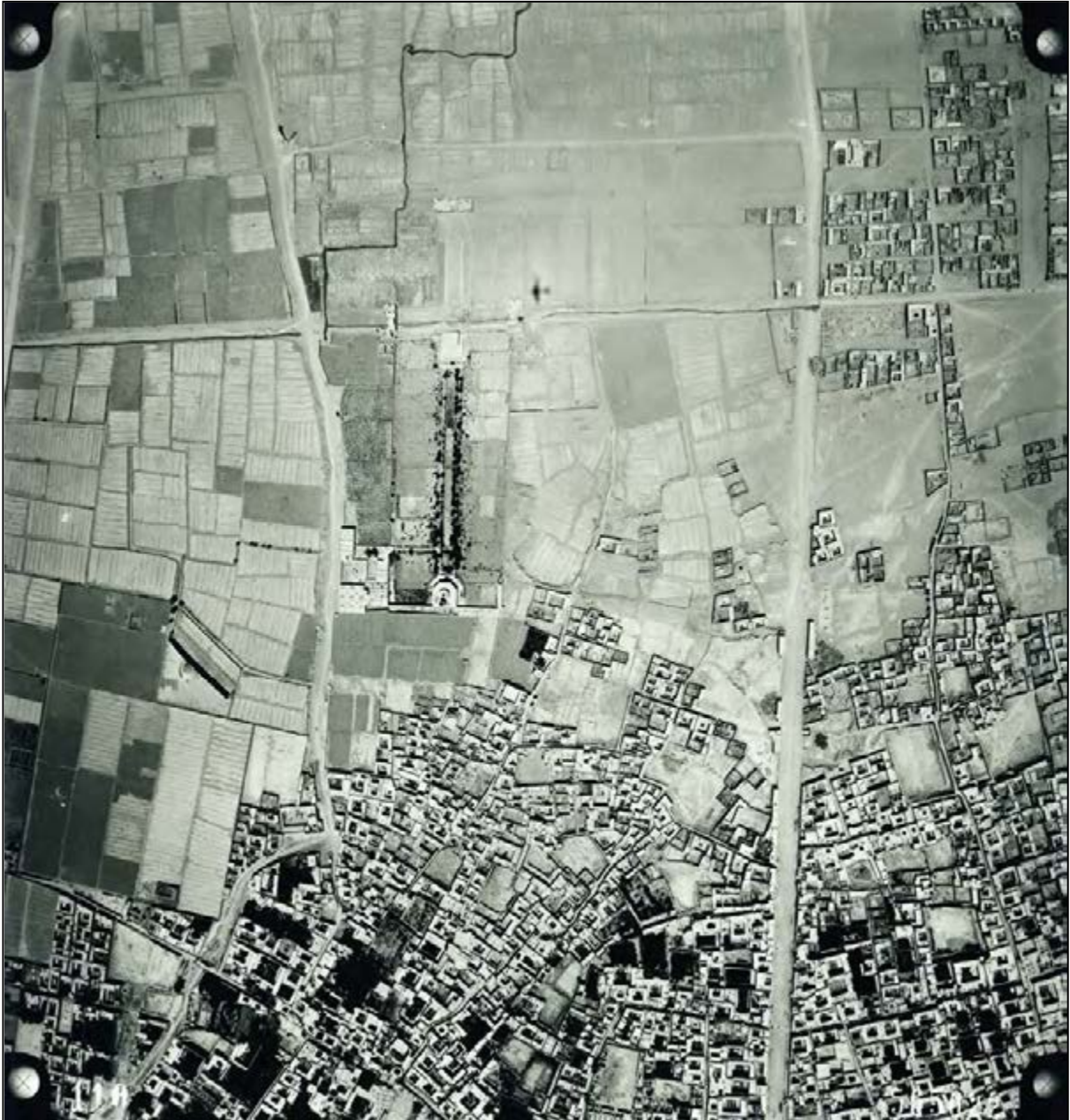


Fig.6-289. Aerial Photo-1956 (NCC)



Fig.6-289. Aerial Photo -2004 (Google Earth)

**Statistic on the Number of Visitors in *Bagh-e Dolat Abad***

Month	Iranian visitors	Foreign visitors	Total visitors
March-April	10850	700	11550
April-May	11300	663	11963
May-Jun	8000	236	8236
Jun-July	7000	100	70100
July-August	9300	200	9500
August-September	10500	300	10800
September-October	3900	400	4500
October-November	8400	700	9100
November-December	6600	100	6700
December-January	2400	200	2600
January-February	3700	-	3700
February-March	6700	200	6900
<b>Total</b>	<b>88650</b>	<b>3799</b>	<b>92449</b>

Fig.6-290. Statistic on the number of visitors .2007

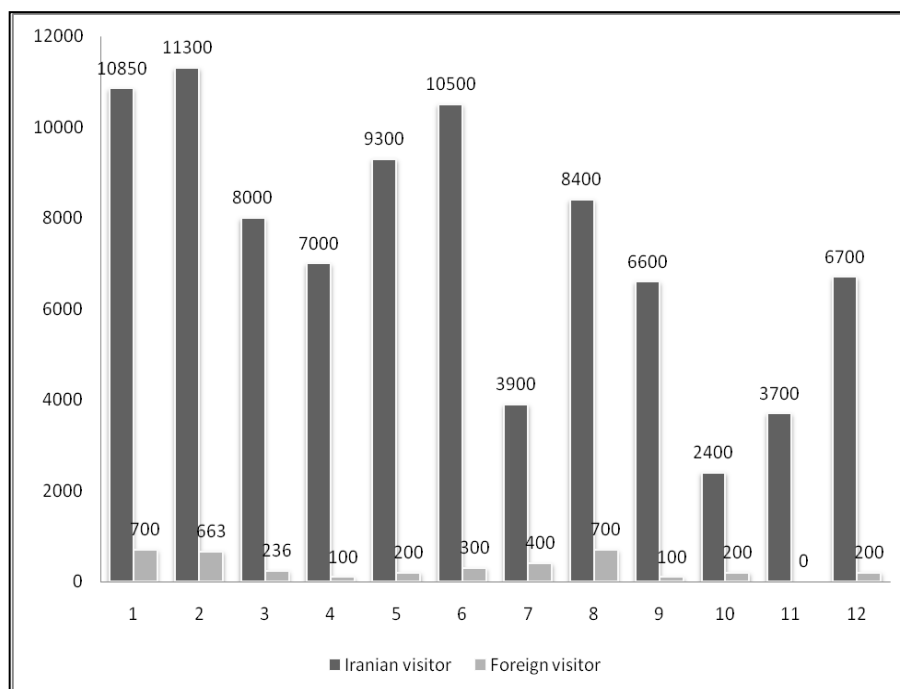


Fig. 6-291. Diagram of Iranian and foreign visitors . year 2007

Month	Total visitors	
	1387	1386
March-April	97200	11550
April-May	13400	11963

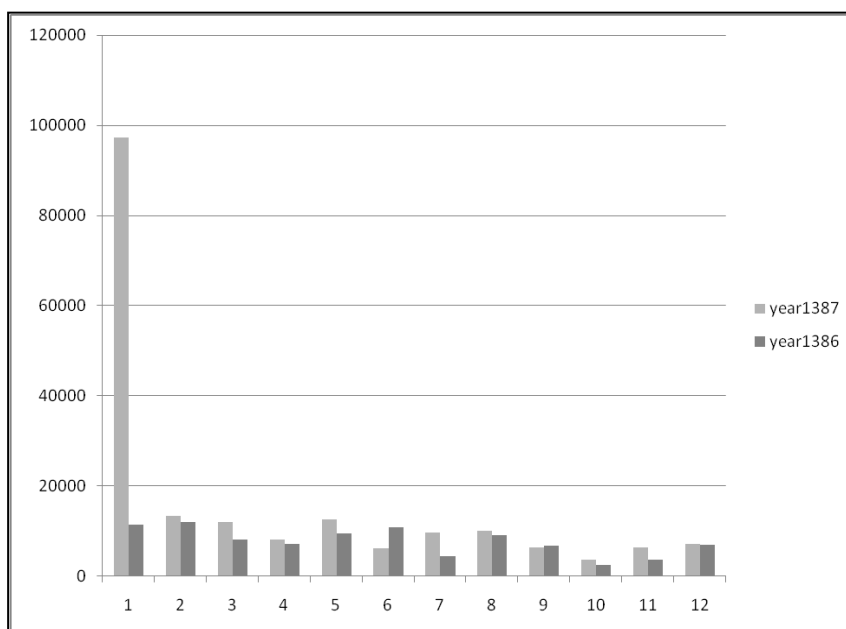


Fig.6-292.Statistic on the number of visitors in *Bagh-e Dolat Abad* (2007-2008)

### Statistic on the Meteorology of Yazd

53,31		Latitude		Station: Yazd								Year: 2008
54,17		Longitude:										
1230.2		Height										
Max wind speed		Evaporation (millimeter)	Rate of frost days	Rainfall during a day (mm)		Relative humidity ( percent)		(Celsius) temperature				Month
Direction	Speed ( m/s)			Maxim um 24 hours	Total	Max Ave.	Min Ave.	Max absolute	Min absolute	Max Ave.	Min Ave.	
310	18	298.8	0.0	tr	0.3	32	10	32.4	7.0	27.8	13.5	March April
200	18	381.7	0.0	0.1	0.1	25	8	38.4	13.6	32.3	18.4	April-May
290	30	487.3	0.0	0.0	0.0	21	7	42.4	19.4	38.6	23.8	May-Jun
340	19	507.7	0.0	0.0	0.0	23	8	43.8	23.4	41.0	27.1	Jun-July
300	15	487.3	0.0	0.0	0.0	21	7	40.8	16.8	38.2	22.7	July-August
300	19	391.7	0.0	0.0	0.0	27	9	37.8	18.2	36.0	20.6	August- September
320	15	270.4	0.0	0.0	0.0	29	10	37.0	11.6	32.3	16.5	September October
220	13	126.9	0.0	4.8	5.7	63	27	30.0	0.2	20.1	8.2	October November
360	11	70.6	4.0	20.1	32.7	77	35	24.0	-4.6	14.5	3.5	November December
300	13	0.0	16.0	0.0	0.0	54	19	24.4	-4.2	15.0	0.6	December January
210	22	0.0	6.0	5.9	12.4	73	27	23.2	-3.0	15.9	3.4	January February
260	25	142.1	0.0	1.0	1.6	45	13	31.0	3.0	22.3	8.0	February March
<b>330</b>	<b>30</b>	<b>3164.5</b>	<b>26.0</b>	<b>20.1</b>	<b>52.8</b>	<b>40.8</b>	<b>15.0</b>	<b>43.8</b>	<b>-4.6</b>	<b>27.8</b>	<b>13.9</b>	<b>Annual</b>



***Bagh-e Pahlavanpur***

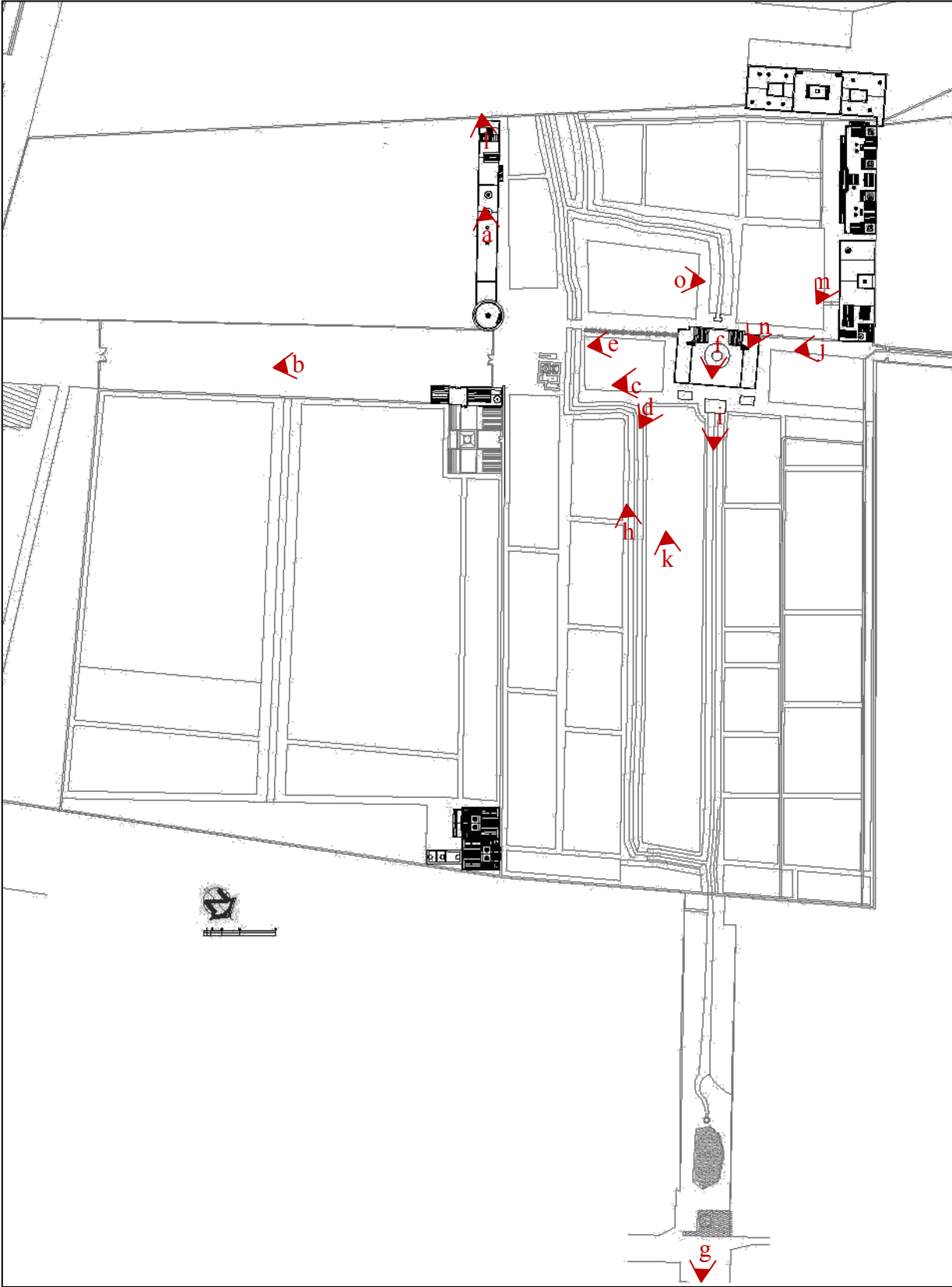
**Outline of the Restoration and Conservation Activities in *Bagh-e Pahlavanpur* <sup>8</sup>:**

- Conservation activities in the main pavilion
- Conservation activities *in* Mirza Nasrollah and Anjirak watermill
- Restoration of the stall's roof
- Restoration of interior space of the tower
- Restoring the Zemestan-khaneh (winter residence):
- Reinforcing and Repair the mud wall surrounding the garden

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<sup>8</sup> For comprehensive information see page 608 on part 4 a. of this document

**Key plan of Monitoring of Conservation and Restoration**



**Monitoring of Conservation and Restoration**

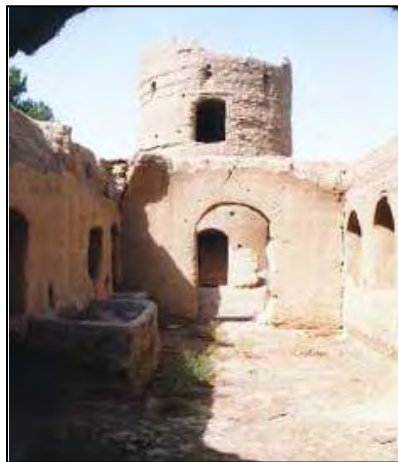


Fig. a.6-293. 1990s  
(Base of nominated gardens of Yazd)



Fig.6-294.a.2009  
(Base of nominated gardens of Yazd)



Fig.8.6-295. 1990s  
(Base of nominated gardens of Yazd)



Fig.6-296.b.2009  
(Base of nominated gardens of Yazd)



Fig .6-297.b.2000 (Base of nominated gardens of Yazd)



Fig .6-298.c. (Base of nominated gardens of Yazd)



Fig .6-299.c. (Base of nominated gardens of Yazd)



Fig .6-300.d. (Base of nominated gardens of Yazd)



Fig .6-301.d. (Base of nominated gardens of Yazd)



Fig 6-302.e.2007 (Base of nominated gardens of Yazd)



Fig 6-303.e.2009 (Ghajari)



Fig 6.304.f.2009 (Ghajari)



Fig 6.305.g.2009 (Ghajari)



Fig 6-306.h.2009 (Ghajari)

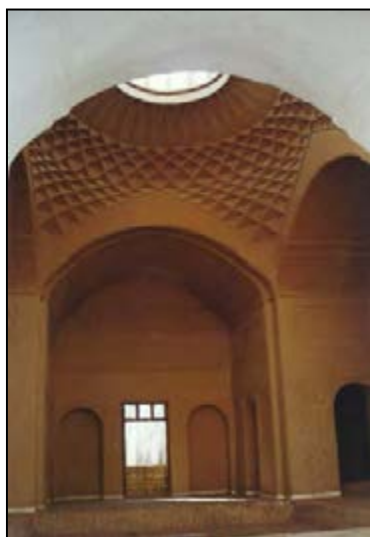


Fig 6-307.i.2009 (Ghajari)



Fig 6-308.j.2009 (Ghajari)



Fig 6-309.k.2009 (Ghajari)



Fig 6-310.l. (Base of nominated gardens of Yazd)



Fig 6-311.m.2009 (Ghajari)



Fig 6-312.n.2009 (Base of nominated gardens of Yazd)



Fig 6-313.o.2007 (Base of nominated gardens of Yazd)

**Monitoring of Development**



Fig.6-314. Aerial photo of *Bagh-e Pahlavanpur*.2009



Fig.6-315. Aerial photo of *Bagh-e Pahlavanpur*.1981

**Monitoring of Tourism**



Fig.6-316.Monitoring of tourism



Fig.6-317.Monitoring of tourism

**Statistics on the Number of Visitors in *Bagh-e Pahlavanpur***

year	visitors
2001	1500
2002	2000
2003	2500
2004	5000
2005	9000
2006	12000
2007	15000
2008	15000
2009	2000

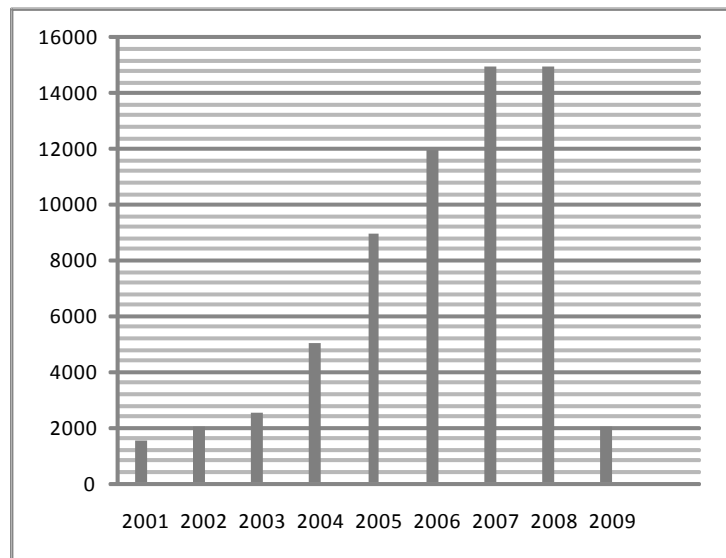


Fig.6-318.Staistics and diagram of the number of visitors in *Bagh-e Pahlavanpur* (2001-2009)



**Statistic on the Meteorology of Mehriz**

31, 57 54, 48		Latitude		Station: Mehriz								Year 2008
1520		Longitude:										
		Height										Month
Max wind speed		Evaporation (millimeter)	Rate of frost days	Rainfall during a day (mm)		Relative humidity ( percent)		(Celsius) temperature				
Direction	Speed ( m/s)			Maximum 24 hours	Total	Max Ave.	Min Ave.	Max absolute	Min absolute	Max Ave.	Min Ave.	
360	12	293.8	0.0	0.7	0.9	36	17	30.8	7.8	26.5	16.7	March April
240	10	374.8	0.0	0.0	0.0	27	13	37.2	12.4	31.1	17.4	April-May
330	9	515.1	0.0	0.0	0.0	26	13	40.0	18.0	36.8	22.8	May-Jun
80	11	552.1	0.0	0.0	0.0	36	22	41.4	23.4	38.9	25.9	Jun-July
360	10	478.0	0.0	0.0	0.0	26	13	38.0	18.8	35.9	22.7	July-August
330	12	412.3	0.0	0.0	0.0	28	14	35.4	16.8	33.9	20.5	August September
30	10	301.8	0.0	0.0	0.0	31	14	35.6	11.6	30.6	15.9	September October
270	8	98.7	0.0	6.6	10.3	65	34	28.8	0.4	18.3	7.6	October November
210	8	60.8	5.0	13.3	16.7	67	39	23.0	-4.4	13.4	3.5	November December
180	8	0.0	17.0	0.0	0.0	51	24	22.8	-4.4	14.0	1.2	December January
210	22	0.0	6.0	5.2	14.7	68	33	21.6	-3.8	14.7	2.7	January February
210	15	61.8	0.0	11.7	13.5	50	23	28.0	1.8	20.5	7.1	February March
<b>210</b>	<b>22.0</b>	<b>3149.2</b>	<b>28.0</b>	<b>13.3</b>	<b>56.1</b>	<b>42.6</b>	<b>21.6</b>	<b>41.4</b>	<b>-4.4</b>	<b>26.2</b>	<b>13.7</b>	<b>Annual</b>

Fig.6-319. Statistic on the Meteorology of Mehriz, 2008

### ***Bagh-e Akbariyeh***

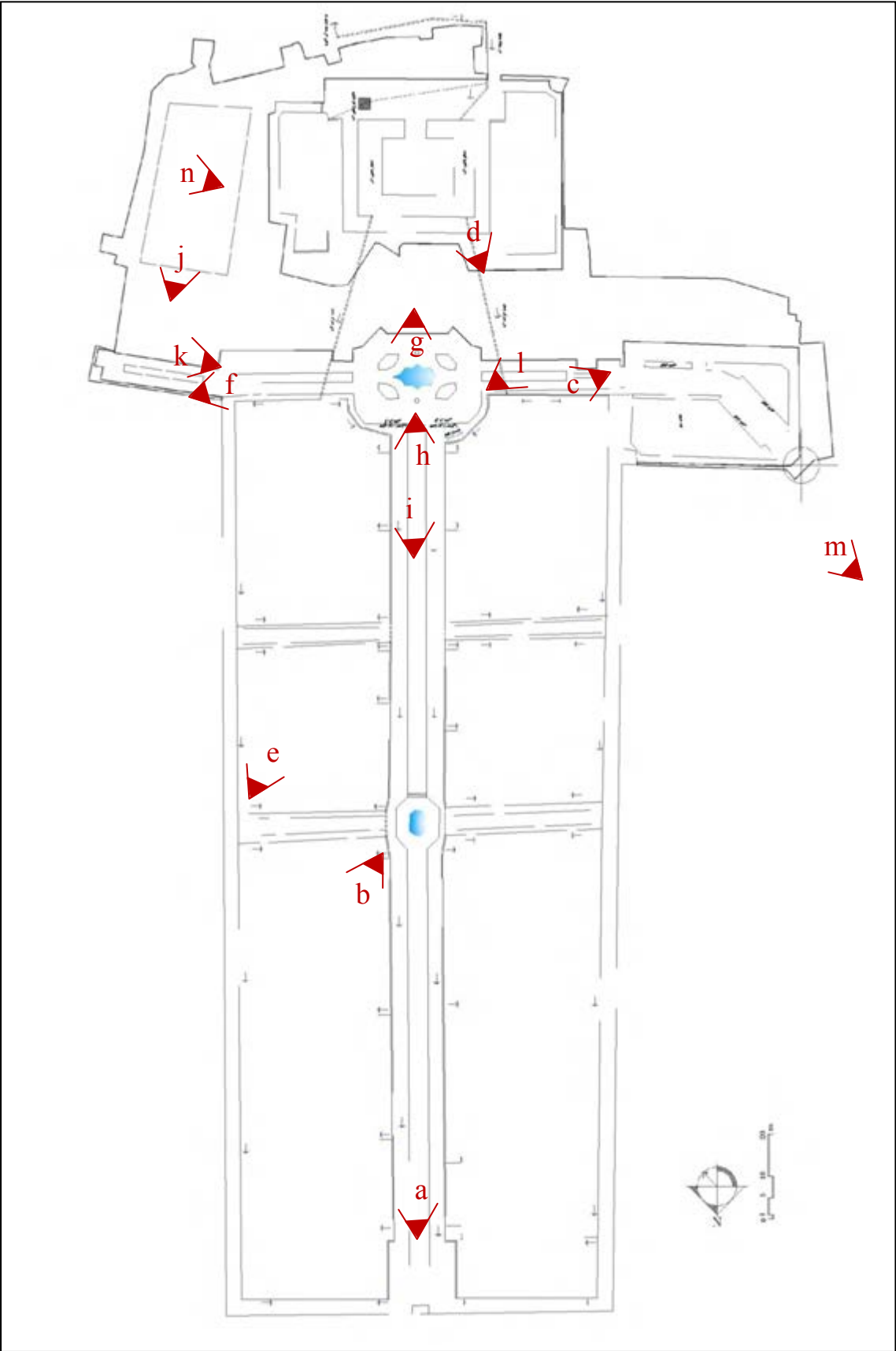
#### **Outline of the Restoration and Conservation Activities in *Bagh-e Akbariyeh* <sup>9</sup>:**

- Restoring Walls of the garden
- Restoring Waterways
- Excavating the Pavement of the garden to reach the authentic pavement
- Restoring the stone pavements
- Restoring the roof of the *Ab-Anbar* (water reservoir)
- Restoring the Roofs respecting the traditional workmanship.
- Restoring wooden doors
- Restoring brick footings of the walls
- Consolidating The eastern side of the storehouse
- Doing a research on the history of *bagh-e Akbariyeh*
- Preparing a revitalization plan for the garden

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<sup>9</sup> For comprehensive information see page 611 on part 4 a. of this document

**Key plan of Monitoring of Conservation and Restoration**



**Monitoring of Conservation and Restoration**



Fig. 6-320. a: ICHHTO of Birjand



Fig. 6-321. a: 2009 (Akbari)



Fig. 6-322. b: ICHHTO of Birjand



Fig. 6-323. b: 2009 (Akbari)



Fig. 6-324. c : ICHHTO of Birjand

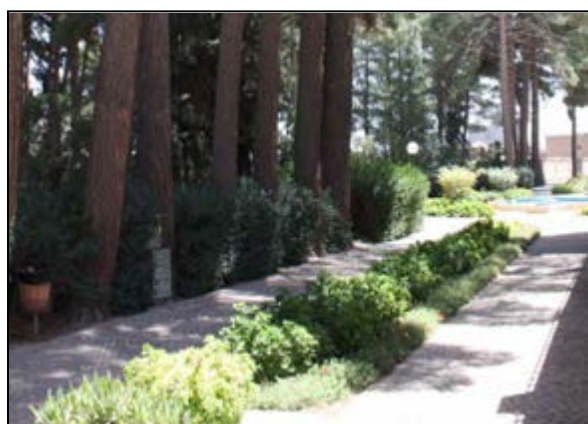


Fig. 6-325. c: 2009 (Akbari)



Fig. 6-326. d : ICHHTO of Birjand



Fig.6-327. d: 2009 (Akbari)



Fig. 6-328. e : ICHHTO of Birjand



Fig. 6-329. e: 2009 (Akbari)



Fig. 6-330. f: ICHHTO of Birjand



Fig. 6-331. f: 2009 (Akbari)



Fig. 6-332. g : ICHHTO of Birjand



Fig. 6-333. g : 2009 (Akbari)



Fig. 6-334. h: ICHHTO of Birjand



Fig. 6-335. h: 2009 (Akbari)



Fig. 6-336. i: ICHHTO of Birjand



Fig. 6-337. i: 2009 (Akbari)



Fig.6-338. j: ICHHTO of Birjand



Fig. 6-339. j: 2009 (Akbari)



Fig. 6-340. k: ICHHTO of Birjand

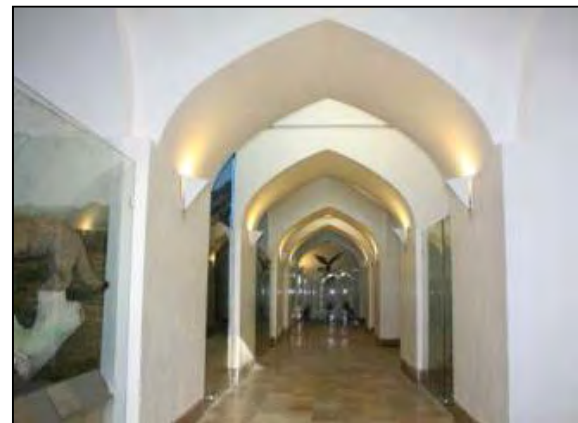


Fig. 6-341. k: 2009 (Akbari)



Fig. 6-342. l: ICHHTO of Birjand



Fig. 6-343. l: 2009 (Akbari)



Fig. 6-344. m: ICHHTO of Birjand



Fig. 6-345. m: 2009 (Akbari)



Fig. 6-346. n: ICHHTO of Birjand



Fig. 6-347. n: 2009 (Akbari)



**Monitoring of Development**



Fig 6-348. Aerial photo of *Bagh-e Akbariyeh*. 2000. ICHHTO of Birjand



Fig 6-349. Aerial photo of *Bagh-e Akbariyeh*. 2009. Google Earth

**Monitoring of Tourism**



Fig .6-350.Monitoring of tourism  
ICHHTO of Birjand



Fig .6-351.Monitoring of tourism  
ICHHTO of Birjand



Fig .6-352. Monitoring of tourism  
ICHHTO of Birjand

**Statistic on the Number of visitors in *Bagh-e- Akbariyeh***

Date	Number of visitors
18/3/2009	-
19/3/2009	212
20/3/2009	233
22/3/2009	1373
23/3/2009	1330
24/3/2009	2074
25/3/2009	2004
26/3/2009	1417
27/3/2009	1610
28/3/2009	1710
29/3/2009	1359
30/3/2009	927
1/4/2009	1335
2/4/2009	1765
3/4/2009	1658
4/4/2009	-

Date	Number of visitors
19/3/2007	1243
20/3/2007	1080
22/3/2007	946
23/3/2007	989
24/3/2007	1246
25/3/2007	2042
26/3/2007	2426
27/3/2007	1986
28/3/2007	2232
29/3/2007	1824
30/3/2007	1283
1/4/2007	1824
2/4/2007	1070
3/4/2007	1943
4/4/2007	-
5/4/2007	502

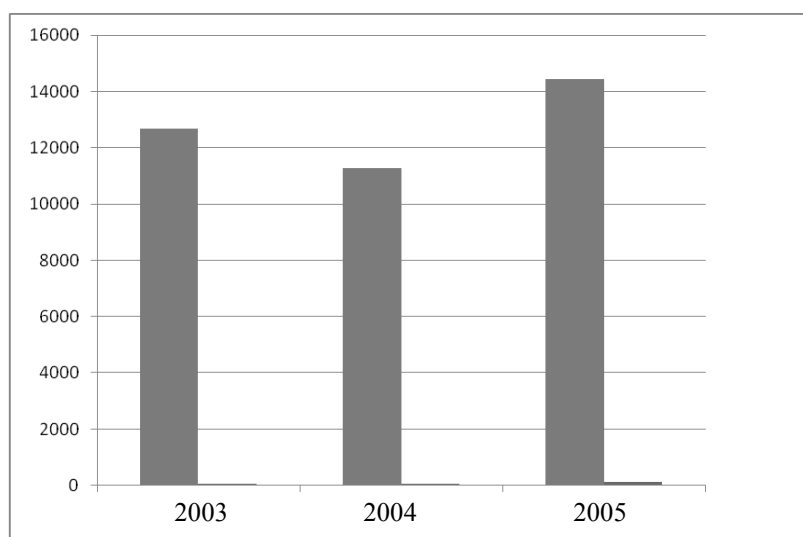


Fig.6-353. Iranian and foreigner visitors of *Bagh-e Akbariyeh*

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- Without title. Oil color Painting by: *Jafar Rouhbakhsh*, 1993
- Miniature painting. *Shahnameh*. 17<sup>th</sup> AD.
- Miniature painting. *Haftorang-e Jami*. 16<sup>th</sup> AD.

*List of Slides:*

Id. No	Folder Name	Number of Slides	Photographer	Date of Photo (mo/yr)
I.	<i>Ancient Garden of Pasargadae</i>	19	Archive of Pasargadae	2002-2009
II.	<i>Bagh-e Eram</i>	10	M.Ghadiri	2009
III.	<i>Bagh-e Chehel Sotun</i>	30	M.Ghadiri & Archive	2009
IV.	<i>Bagh-e Fin</i>	9	M.Ghadiri	2009
V.	<i>Bagh-e Abas Abad</i>	22	M.Ghadiri	2009
VI.	<i>Bagh-e Shahzadeh</i>	9	M.Ghadiri	2009
VII.	<i>Bagh-e Dolat Abad</i>	15	M.Ghadiri	2009
VIII.	<i>Bagh-e Pahlavanpur</i>	12	M.Ghadiri	2009
IX.	<i>Bagh-e Akbariyeh</i>	7	M.Ghadiri	2009



**7.b. Texts relating to protective designation, copies of property management plans or documented management systems and extracts of other plans relevant to the property.**

**Core and buffer zone's regulations of the nine nominated gardens:**

➤ *The Ancient garden of Pasargadae:*

– *Core Zone Regulations:*

- 1- All operations pertaining to restoration, reconstruction, archeological reorganization and conservation must get underway only after their being compiled and approved by ICHHTO.
- 2- Any kind of agricultural activity is forbidden.
- 3- Digging cesspits harming underground tables is not allowed.
- 4- Any action altering the authenticity and integrity of garden is not allowed.

– *Buffer Zone Regulations:*

Zone A;

- 1- Any activity such as mountain cutting, tree planting, farming, installing poles and the like as well as any activity leading to transformation of historical or natural topological hills is strictly prohibited.
- 2- Tree planting and land possessing activities are strictly prohibited.
- 3- All new construction must be initially approved by ICHHTO.
- 4- Unharmonious buildings standing inside the buffer zone must be demolished when deemed necessary.
- 5- Expansion of villages near Pasargadae into buffer zone A is strictly prohibited.
- 6- Digging water wells in order to supply the water needed by farmers as well as wiring of such wells is only allowed if their bases are lowered to a minimal level and no harm is done to the landscape or spectacle after acquiring formal permission from ICHHTO.
- 7- Digging canal branches for supplying water to farmlands is only permitted after their routes have been defined by ICHHTO experts under their supervision.

Zone B;

- 1- Construction of factories and workshops polluting the environment as well as townships, high density housing complexes and land division for these purposes is strictly prohibited.

- 2- Construction of one floor buildings with a maximum height of 4.5m and a flat roof is permitted.
- 3- Architectural design of rural residential buildings inside Zone B must conform to the historical prestige of the natural-historical complex of Pasargadae as well as its indigenous materials and the regional climate.
- 4- Pilot Plan for villages within zone B must initially be confirmed and approved by ICHHTO.
- 5- Construction of roads, streets, walkways, power and telephone lines, water and gas pipes, etc... must initially be confirmed and approved by ICHHTO.
- 6- Exploitation of gravel and sand mines, etc... is forbidden.

➤ *Bagh-e Eram*

– *Core Zone Regulations:*

- 1- Intervention and possession of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by ICHHTO.
- 3- New branching of spring source or Qanats water linked to the garden is prohibited.
- 4- Digging any cesspits harming underground tables and Qanats is not allowed.
- 5- Any altering hurting the authenticity and integrity of garden is not allowed.

– *Buffer Zone Regulations:*

Zone A;

- 1- Maximum permitted height of buildings within the buffer zone A must not surpass 8.5m from the floor of the walkway upon which the entrance stands
- 2- Buildings constructed within the buffer zone A without respecting above mentioned principles must be reconstructed with respect of them when their usable lifetime expires.
- 3- Any change into commercial, administrative, medical or service functions within the buffer zone A is not allowed.
- 4- Construction in properties adjacent to the monument must be done by keeping a distance of five meters from the garden wall.

Zone B;

- 1- Buildings standing inside buffer zone B must be stabilized in their current form and no new constructions are allowed without the permission of *ICHHTO*
- 2- Tree cutting of any kind is forbidden
- 3- According to articles 558-569 of the fifth book of Islamic punishment laws, respecting specified regulations is obligatory and any infringements will be prosecuted.

➤ *Bagh-e Chehel Sotun*

– *Core Zone Regulations:*

- 1- Intervention of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.
- 3- New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4- Digging any cesspits harming underground tables and *Qanats* is not allowed.
- 5- Any action hurting the authenticity and integrity of garden is not allowed.

– *Buffer Zone Regulations;*

- 1- The buffer zone line of Bagh-e Chehel-sotun is part of the historical-cultural axis of Isfahan approved in the urban master plan of 1372 SAH.
- 2- Valuable houses and buildings must be restored and preserved with the permission of *ICHHTO* and if necessary an optimal function conforming to their body is granted to them.
- 3- Fadan, Joshah and Farshadi Madis must be preserved and revitalized, moreover digging water wells or cesspits on their course is forbidden.
- 4- Revitalization of Abbasi Chaharbagh Gardens should be included within long term plans.
- 5- Any division or functional change of *Khargah* and *Hasht-behesht* gardens is forbidden.
- 6- Operations polluting streams, underground tables and *Madis* are prohibited.
- 7- Tree cutting inside the complex is forbidden.
- 8- Present density within the conservation area must be kept.
- 9- Maximum height of buildings must not surpass 7.5m.
- 10- Any urbanization plan must be approved by *ICHHTO*.

➤ *Bagh-e Fin*– *Core Zone Regulations:*

- 1- Intervention of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by ICHHTO.
- 3- New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4- Digging any cesspits harming underground tables and *Qanats* is not allowed because wastewater leakage from them might pollute waters
- 5- Any action altering the authenticity and integrity of garden plants, water or architecture is not allowed.

The buffer zone of the historical Bagh-e Fin of *Kashan* has been specified according to following regulations in two zones of: A and B.

– *Buffer Zone Regulations:*

## Zone A;

- 1- Valuable buildings including watermills, old religious buildings, etc must be preserved in their present condition.
- 2- Digging deep or semi-deep wells on the upstream of the historical spring of *Soleymanieh* is prohibited.
- 3- Digging any cesspits upon the route of *Qanats* and waterworks of *Soleymanieh* spring is forbidden
- 4- Digging any deep cesspits harming underground tables is not allowed because wastewater leakage from them might pollute their water
- 5- Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of ICHHTO
- 6- Any activity resulting in the damage or pollution of the route of water supplying network branched off *Soleymanieh* spring and its water dividers is forbidden.
- 7- Any division or functional change of gardens or agricultural lands is forbidden
- 8- New constructions are only allowed within the framework of cultural, tourist activities of ICHHTO fulfilling the following conditions:

- A) Maximum permitted height of new buildings should be one floor or 4.5m above the ground floor level
  - B) Their façade must be in harmony with indigenous architecture.
- 9- Tree cutting in the buffer zone is forbidden.

Zone B;

- 1- Articles 1,2,3,4 and 5 mentioned earlier about Zone A also apply to Zone B and must be respected.
- 2- Any activity resulting in damaging, polluting and directing wastewaters towards floodways and into the route of water supplying network branched off *Soleymanieh* spring is forbidden
- 3- Construction of residential houses in highlands located at the upper part of the highway as well as the upstream of the historical spring of *Soleymanieh* is prohibited.
- 4- Construction of non-residential buildings within the framework of nationally approved development plans at the upper part of *Isfahan-Qom* freeway as well as the upstream of the historical spring of *Soleymanieh* should respect the entire environmental and cultural heritage regulations as well as relevant standards and technical principles.
- 5- Within the lower part of *Isfahan-Qom* freeway (inside the fabric of *Fin-e kochak*) construction of buildings is only allowed if: no tree cutting is done, they are not more than two floors, their maximum occupation of garden grounds must be 10% and their construction maps are confirmed by relevant experts (with the exception of buffer zones of cases already registered or in the process of being registered)
- 6- Maximum permitted height of residential houses built in the lower part of *Isfahan-Qom* freeway (inside the fabric of *Fin-e kochak*) is three floors
- 7- New constructions within the buffer zone must not lead to alteration or destruction of the route of *Qanats*, flood walls, underground water tables, water supplying network branched off *Soleymanieh* spring, historical passageways or open spaces with visual values.
- 8- Conservation and reconstruction of damaged parts of the flood wall must be conducted according to specified technical principles and standards after acquiring the permission of *ICHHTO*.

➤ *Bagh-e Abas Abad*

– *Core Zone Regulations:*

- 1- Intervention and possession of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.
- 3- Usage of heavy vibrating or environmental polluting instruments such as acoustic polluters, etc. is prohibited.
- 4- Any intervention altering the authenticity and integrity of the monument is strictly prohibited

– *Buffer Zone Regulations:*

- 1- Construction of buildings within the buffer zone of the garden is only allowed if they serve the needs of visitors in the framework of following regulations.
- 2- Construction of buildings within the buffer zone of the garden is only allowed if they respect the height limit (a maximum height of 5.5m or one floor)
- 3- Building designing must be conducted with due consideration of the garden occupying the least space possible so that in the end the dominant designing space must be the garden with its indigenous vegetation.
- 4- The building must be constructed in a spot not altering the landscape of *Bagh-e Abas-abad*
- 5- Façade designing must be done adopting traditional patterns and indigenous materials in harmony with natural surroundings
- 6- All programs and plans must obtain formal permission from *ICHHTO* (Historical Garden of *Abbas-abad* Base) before any further action.
- 7- Any developing, transforming or leveling plan for constructional projects or for infrastructural facilities such as electricity, water supply, sewage system etc... must obtain formal permission from *ICHHTO* (Historical Garden of *Abbas-abad* Base) before taking any action.

➤ *Bagh-e Shahzade, Mahan*

– *Core Zone Regulations:*

- 1- Intervention of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.
- 3- New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4- Digging any cesspits harming underground tables and *Qanats* is not allowed.
- 5- Any altering hurting the authenticity and integrity of garden is not allowed.

– *Buffer Zone Regulations:*

- 1- Intervention, alteration or construction of any kind inside the natural riverbed, *Qanat*, vegetation and natural topography within the buffer zone of the monument is prohibited.
- 2- Because the garden existing within the buffer zone (*Seyed Hosein Garden*) has historical-architectural values, it must get under conservation, restoration and stabilization in its existing form. After compiling the restoring and reorganizing plan, it must be first approved by *ICHHTO*.
- 3- New branching of spring source or *Qanats* water linked to the garden is prohibited.
- 4- Water usage after its exit from the garden and its buffer zone is allowed but only for regional gardening and farming purposes.
- 5- In order to maintain the natural landscape as well as environmental values, any construction activity, setting up communication poles, cutting trees, destructing or changing the course of surface waters (streams and springs), etc... must initially be confirmed and approved by *ICHHTO*
- 6- Keeping and continuing farmlands, gardens and green spaces in their present condition is obligatory
- 7- Any division or functional change of gardens or agricultural lands is forbidden.
- 8- Any activity within the buffer zone hurting its core zone or arena is prohibited such as traffic of heavy motor vehicles, installment of noisy, vibrating and air polluting machinery, digging wells and canals, excavating as well as directing surface waters towards the core zone of the monuments.

➤ *Bagh-e Dolat Abad*

– *Core Zone Regulations:*

- 1- Intervention of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.
- 3- New branching of spring source or *Qanat* water linked to the garden is prohibited.
- 4- Constructing of cesspits harming underground tables and *Qanats* is not allowed.
- 5- Any action altering the authenticity and integrity of garden plants or its water and architecture is not allowed.

– *Buffer Zone Regulations:*

- 1- Restoration and conservation of valuable buildings (including cisterns, old religious buildings, etc...) must be first approved by *ICHHTO* and if necessary an appropriate function in harmony with the fabric be allocated to them.
- 2- Digging deep or semi-deep wells on the upstream of the garden is prohibited.
- 3- Digging any cesspits harming underground tables and *Qanats* is not allowed because wastewater leakage from them might pollute waters
- 4- Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of *ICHHTO*
- 5- Any division or functional change of gardens or agricultural lands is forbidden
- 6- Any new constructions must be first approved by *ICHHTO* within the following regulations.
  - Maximum permitted height of buildings is one floor or 4.5m above the ground floor level
  - Architectural pattern should match indigenous architecture
  - Tree cutting in the buffer zone is forbidden

➤ *Bagh-e Pahlavanpur*

– *Core Zone Regulations:*

- 1- Intervention of any kind is prohibited.
- 2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.
- 3- New branching of spring source or *Qanat* water linked to the garden is prohibited.



4- Digging any cesspits harming underground tables and *Qanats* is not allowed because wastewater leakage from them might pollute waters

5- Any action altering the authenticity and integrity of garden plants, water and architecture is not allowed.

– *Buffer Zone Regulations:*

1- Restoration and conservation of valuable buildings including existing water mills must be conducted under the supervision of *ICHHTO*

2- Digging deep or semi-deep wells on the upstream of the historical spring of *Hasan-abad* is prohibited.

3- Digging any cesspits which damage or pollute *Qanat* routes and water supply networks of *Hasan-abad* spring is prohibited.

4- Digging any deep cesspits harming underground tables is not allowed because wastewater leakage from them might pollute waters

5- Digging absorbing wells within the buffer zone is forbidden but digging reservoir cesspits with appropriate insulation is permitted pending the approval of *ICHHTO*

6- Any division or functional change of gardens or agricultural lands is forbidden

➤ *Bagh-e Akbariyeh, Birjand*

– *Core Zone Regulations:*

1- Intervention of any kind is prohibited.

2- All operations pertaining to restoration and conservation must be first approved by *ICHHTO*.

3- Any intervention altering the authenticity and integrity of the monument is strictly prohibited.

– *Buffer Zone Regulations:*

1- Conservation, restoration and any functional change of valuable historical buildings must be first approved by *ICHHTO*.

2- Digging wells on *Qanat* path is prohibited.

3- Producing any pollution, digging deep wells or a sewage system harming underground tables is not allowed.

4- Any new constructions must be first approved by *ICHHTO*.

- 5- Maximum permitted height of buildings is one floor or 4.5m
- 6- Materials used for buildings construction must be in harmony with the historical building and its surrounding fabric.

***Property management plan or other management system:***

*The National Base of Persian garden* is the authority responsible for managing the entire nominated property<sup>1</sup>. Since each provincial base is a sub-sector of *The National Base of Persian garden*, the assurance of effective implementation of each base's management system is within the duties of *the National base of Persian garden*.

➤ *The mission of the Management Plan is to:*

Preserve the outstanding universal values of the Persian Garden.

➤ *Strategies to achieve the overall mission are to:*

- Coordinate conservation activities in different gardens by executing an integrated management system;
- Ensure and encourage participation of stakeholders;
- Regulate and manage monitoring and documentation in all gardens;
- Support Risk preparedness programs in provincial bases;
- Promote Research projects in related fields such as:
  - Manners of Sustainable utilization of water resources of the gardens;
  - Botanical and geological research;
  - Architectural styles in built heritage of the gardens;
  - Preserving diversity of plant kinds in different gardens;
- Contact relevant organizations;
- Expand presentation and educational activities in order to increase public awareness;
- Balance tourism demands in different regions of the property by:
  - Controlling tourism affects upon gardens that suffer from visitor pressure;
  - Moderating tourism impact in regions with high tourist demands.

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<sup>1</sup> For more information about the National Base, refer Fig.5-4. this document.

➤ *Programmes related to the presentation and promotion of the property:*

The National Base of Persian Garden's Policies of presentation and promotion of the property are to:

- Increase public awareness of, and interest in, the property;
  - Promote the cultural value of the property as a whole;
  - Balance visitor access and facilities in all gardens;
  - Identify the economic and cultural benefits of the site and work with partners in the local community to maximize these benefits, without damaging the heritage resource.
- Short-term objectives are to:
- Prepare Data base of the Persian garden ;
  - Provide various guide-books for different readers and tourists and for different purposes;
  - Train skillful local tour guides;
  - Hold periodic scientific conferences on the topic of Persian garden. (in expertise, managing, and public levels);
  - Create and reinforce the relation between the governmental departments and originations and local associations with The National Base and provincial bases.
- Mid-term objectives are to:
- Run training workshops in the schools on the topic of Persian garden;
  - Provide documentary films about the Persian Garden in provincial TV channels;
  - Support tourism agencies to improve the quality and quantity of their tours to nominated gardens;
  - Run various scientific conferences for information exchange about conservation and management of Persian garden;
  - Support and motivate tourism agencies to run especial tours to Persian garden;
  - Direct and encourage NGOs for more introduction of the Persian garden;
  - Create suitable structures for partnership of universities, higher education centers, scientific institutes and research centers in different fields related to world heritage nominated gardens;
  - Create a Web site on the Persian Garden;

- Hold exhibition programs on different gardens.
- Long -term objectives are to:
  - Develop the tourism rout of the Persian Garden, which connects nominated and other historical gardens of Iran (Fig.5-64.);
  - Hold annual exhibitions and conferences.

➤ *Management objectives in each of the nominated gardens:*

Short-term (2 years), mid-term (5 years) and long-term (10 years) objectives of provincial bases are as follows:

*The Base Of Persian Garden, Fars:*

– *The Ancient garden of Pasargadae*

- Short- term objectives are to:
  - Research activities about the historical course of *Bagh-e Shahi* and its linkage with other places in the WHS area;
  - Photogrametric survey of the palace P;
  - Photogrametric survey and geo physical research of pavilions and stone water courses;
  - Removal of weeds and pruning *Bagh-e Shahi*;
- Mid- term objectives are to:
  - Continued research activities on the historical course of *Bagh-e Shahi* and linking it with other places;
  - Continued geophysical research on ancient courses of water circulation in the *Bagh-e Shahi* and other related parts;
  - Reveal and reinterpret the structures observed in geophysical maps;
  - Do botanic and archeological studies on plant species of the *Baghe Shahi*;
  - Conservation of stone water courses;
  - Conservation of palace and pavilions;
  - Conservation of residential palace columns;
  - Conservation of residential palace inscriptions;
  - Revision of documentations.

- Long- term objectives are to:
  - Completion of research activities of the historical course of the *Bagh-e Shahi* and its relationship with other palaces;
  - Completion of the geophysical activities on the garden;
  - Completion of the studies of historical courses of conducting water in *Bsfge Shahi* and other related parts.
- *Bagh-e Eram, Shiraz*
  - Short- term objectives are to:
    - Documentation, collection and completion of all data;
    - Make and equip the data base of the garden.
    - Program to represent the garden by publishing catalogues and etc.
    - Cooperation with various organizations and determin the extent of their cooperation;
    - Maintain monitoring and conservation activities based on approved budget;
    - Improve the research centre of the base;
    - Hold training courses to educate local professional personnel;
    - Supervise and hold meetings with urban and local authorities to observe development plans;
    - Conduct university researches toward the needs and use local knowledge and promote it both in quality and quantity.
  - Mid- term objectives are to:
    - Collect the data related to actions done to protect plant species;
    - Provide yearly reports of monitoring activities;
    - Reorganize the eastern part of the garden based on authentic documents.
    - Improve the modern installations, respecting the visual integrity of the garden.
  - Long- term objectives are to:
    - Promote educational level of the local craftsmen;
    - Improve the techniques of gardening and maintenance of the garden;
    - Reorganize the eastern part of the garden according to the original design of the Persian Garden.

*The Base Of Persian Garden, Isfahan:*– *Bagh-e Chehel Sotun, Isfahan*

- Short- term objectives are to:
  - Move official function to the second floor of the building to enable visitors to see all parts of the garden;
  - Remove additional panels and tools that blocks the view of visitors to the pavilion;
  - Restore and rehabilitate the water courses around the building;
  - Improve visitor facilities in the garden;
  - Keep *Pahlavi* period wall as a document of a historical era;
  - Improve lightening facilities;
  - Form a committee consisted of representatives of Cultural Heritage, Municipality, Governorship and representatives of other related organizations to increase the speed of executive affairs and coordination;
  - Rehabilitate the western pool of the building;
  - Plan a comprehensive introduction of *the Chehelsotun*;
  - Train skilled tour guides;
  - Prepare a 3D model of the garden and install it in the suitable places;
  - Publish presentation catalogues;
  - Hold training workshops for the students;
  - Hold training courses with collaboration of skilled craftsmen in the garden;
  - Collaborate with universities, research centers, experts; outstanding craftsmen and education department;
  - Hold weekly meetings;
  - Facilitate the axis from *Naghshe Jahan* toward *Chehelsotun*;
  - Maintain documentation and research programs.
  
- Mid- term objectives are to:
  - Rehabilitate *Madi*<sup>2</sup> courses as the natural side walk and local green spaces;
  - Keep the present *Pahlavi* era built heritage in *Sepah* street)

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<sup>2</sup> *Madies* are uncovered water canals in the historical city of *Isfahan*.

- 
- Cooperate with education deputy and plan to present the building in different training courses;
  - Make a strong relationships with scientific institutes;
  - Long- term objectives are to:
    - Alter unsuitable functions around the garden;
    - Rehabilitate the streets around the garden to reconnect the garden to its historical context;
    - Rehabilitate the *Dolatkhaneh* and *Shahi* courses;
    - Open western part of the garden to public and direct visitors from *Darvazeh Dolat* toward the garden to serve as a connection between *Chahar bagh* and *Naghshe Jahan*
    - Take the possession of some parts of the building that governorship has occupied;
    - Move the auto parking lot behind the western part of the garden.
    - Design the wall of the garden according to its original form as in historical documents;
  - *Bagh-e Fin, Kashan*
    - Short-term objectives are to:
      - Improve the document center of the base;
      - Improve the monitoring center;
      - Study pathology and present plans to prevent drying the plant coverage of the garden;
      - Review the present development plants affecting the universal value of the property;
      - Do research aimed at improving conservation activities;
      - Finalize the semi-finished projects in the garden (museum, sanitation services, parking);
      - Organize the tourist circulation in the garden;
      - Improve electrical and security facilities of the garden, considering the visual integrity;
      - Continued maintenance and conservation of plants;
      - Continued researches related to plants;
      - Continued research on waterworks.

- 
- Mid-term objectives are to:
    - Complete the documentation of system, pavilions and context of the garden;
    - Cooperate with Municipality and related organizations to organize the traffic around the garden;
    - Prevent the traffic entering the garden's buffer zone and determine the limits of the side walk near the garden;
    - Train the garden employees;
    - Train the guards and security units;
    - Open the anthropology museum in the garden;
    - Reform the installations in the buffer zone;
    - Improve visitor facilities;
    - Reorganize visual appearance of the constructions in the buffer zone;
    - Rehabilitate former applications such as the mills;
    - Do research on the manner of distributing the water of *Soleymaniye* fountain, on the sanctity of the water and on ceremonies of fin residents from distant past up to now.
    - Reorganize the parking area near the garden.
  
  - Long-term objectives are to:
    - Hold research and scientific conferences related to the garden;
    - Promote the relationship between presentation team with schools and other centers to improve education and presentation quality;
    - Prepare the background for participation of universities, high education centers and scientific research center in different fields through conducting the research programs and research contractions with comportsing and objective bodies;
    - Publish the results of the actions done by the research center of the base;
    - Improve facilities of the base;
    - Do archeological excavation in the old garden and revitalise the garden.
  
  - *The Base Of Bagh-e Abas Abad, Behshahr, Mazandaran*
    - Short-term objectives are to:
      - Protect and preserve excavated areas in the archeological site;
      - Improve the areas which inappropriate interventions in them;
      - Improve visitor facilities



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- Reinforcement of stone walls of the main garden;
  - Continued the archeological research in the main garden;
  - Continued the conservation activities on the main garden area;
  - Prepare a 3d model of the garden;
  - Restore the pavements of the garden;
  - Reinforce the *Hammam* (bath house) ruins;
  - Provide a temporary parking near the site;
  - Improving the visual situation of the area near the *safavid* dam;
  - Remove the weed from *safavid* dam;
  - Install guide signboards in the site;
  - Design a site museum to exhibit the discovered objects;
  - Remove unwanted plants from the top of the *Char Taghi*;
  - Improve the access between different parts of the site.
- Mid-term objectives are to:
- Restore the irrigation system in damaged parts;
  - Improve visitor facilities;
  - Train visitor guides;
  - Hold exhibition and meetings in the base of *Bagh-e Abas* Abad;
  - Research on the function of the building known as palace;
  - Make a 3d model of the above mentioned building;
  - More methodical research about the function of towers of the garden;
  - Continued conservation activities on the towers;
  - Facilitate the site for natural tourism;
  - Prepare car parking places for visitors;
  - Prepare a visitor management plan considering the special conditions of the garden.
- Long -term objectives are to:
- Take possession of the area that now belongs to military;
  - Conduct archeological research in the buffer zone of the site in order to discover and reveal possible hidden structures;
  - Restore the wooden bridge to *Char Taghi*;
  - Continued conservation on excavated ruins;

- Improve visitor facilities;
- Improve access to the site.

– *The Base Of Bagh-e Shahzade, Mahan, Kerman*

■ Short-term objectives are to:

- Document, prepare and complete relevant information;
- Continued the monitoring program, conservation of the built property;
- Improve visitor access to the site and inside of it;
- Continue botanical studies;
- Review development projects such as *Haft-Bagh-E- Alavi* project in the *Mahan* city;
- Improve visitor facilities;
- Repair and insulation of the pavilion's roof;
- Perform *Kahgel* coating on the surrounding wall of the garden;
- Monitoring water canal, pools and fountains;
- Maintenance of the water canals;
- Organize trainees in the monitoring and investigation activities;
- Strengthen scientific interactions with research institutes and universities.

■ Mid-term objectives are to:

- Conclude plant documentation;
- Hold of the training courses to educate the personnel;
- Strengthen education and introduce all components of the complex in order to present more information about the base to visitors;
- Facilitate the operations of the base staff in the garden;
- Publish the results of the investigation center activities;
- Review and evaluate various teams activities of the base;

Long-term objectives are to:

- Hold scientific conferences pertaining conservation and management;
- Strengthen communication between education and presentation team with local communities;
- Publish investigation activities results;
- Promote and equip the base.

*The Base Of Persian Garden, Yazd:*– *Bagh-e Dolat Abad, Yazd*

- Short-term objectives are to:
  - Continued research about original plants;
  - Do research about the ground strata, and soil;
  - Study on the structural system of the building in order to answer all relevant questions about each part and to resolve unsuitable changes in structural aspects;
  - Strengthen cooperation with *Waghf* organization;
  - Increase cooperation with the tourism deputy as well as to use the experts and facilities of the organization;
  - Inaugurate the center of the documents and library of the research Base Of Persian Garden, *Yazd*;
  - Study, evaluate and perform the repairing and conservation plans of the building, context of the garden to avoid unprofessional and temporal actions;
  - Cooperate with universities, higher-education centers, institutes and scientific research centers in different fields.
  - Organize tourists' access in different parts of the garden,
  - Improve visitor facilities.
  
- Mid-term objectives are to:
  - Conduct research about the ancient systems of irrigating system to rehabilitate it;
  - Conduct research about the threatening factors against irrigating systems at the present time;
  - Conduct research about the old gardening system to rehabilitate the system;
  - Connect the old and new routs of access in the garden;
  - Cooperate with municipality and related organizations to organize the traffic around the garden;
  - Train the employees of the garden;
  - Improve the presentation and promotion;
  - Perform programs with local associations in the research and introductory fields;
  - improve electrical utilities in the buffer zone, respecting the visual integrity of the garden;

- 
- improve urban facilities in the buffer zone according to the regulations;
  - Prepare and perform remedy plan against termite.
  - Connect structural reinforcement of the pavilion;
  - Do anthropological studies regarding the cooperation and relations between different religions involved in the garden constructions.
- Long -term objectives are to:
- Hold scientific and research conferences related to the garden;
  - Coordinate all the research foundations around the protective axes.
  - Improve the relationship between presentation and promotion team with schools and other centers in order to promote education quality;
  - Publish the performance and results of the actions and operations done in the research center of the base;
  - Promote the qualitative levels of different parts of the base;
  - Rehabilitate the historical Qanat of *Dolat Abad* and preserve the traditional irrigating system;
- *Bagh-e Pahlavanpur, Mehriz*
- Short-term objectives are to:
- Continue restoration of the tower and the stable;
  - Finalize the electricity and facilities installation;
  - Remove damages caused by environmental factors in the tower and stable;
  - Clean remained materials from previous repair activities in the garden;
  - Reform and reorganize electrical utilities in the winter residence buildings;
  - Install of the doors and windows in the winter residence building;
  - Continued restoration of the floor of the winter residence building;
  - Continued conservation actions in the *Hammam* and *Matbakh* (kitchen) discovered by archeologists recently;
  - Do research in order to reduce the effect of environmental factors on the plants (such as wind);
  - Continued the repair action in the main area;
  - Dredge water canals and plots.

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- Mid-term objectives are to:
    - Reinforce *MirzaNasrollah* and *Anjiraak* water-mills;
    - Reorganizing the newly discovered archeology site (Hammam and Matbakh);
    - Conclude the plants conservation total project in the garden;
    - Conservation the water works;
    - Conservation and documentation of the plants in the garden;
    - Creation and completion of the database of the Garden;
    - Improve electrical utilities respecting the visual integrity of the garden.
  
  - Long-term objectives are to:
    - Revitalize *Qanats* by collaboration with local communities and authorities;
    - Publish research results in the *Pahlavanpur* garden;
    - Optimize water utilization by educational and legal actions.
  
  - *The Base Of Bagh-e Akbariyeh, Birjand*
    - Short-term objectives are to:
      - Prepare a management plan for the *Bagh-e Akbariyeh*;
      - Replace withered trees and plants;
      - Conduct regular Weeding and maintenance;
      - Prepare a more comprehensive database of plant kinds in the garden;
      - Design a visitor route in the garden.
  
    - Mid-term objectives are to:
      - Repair historic bowers of the garden;
      - Introduce the garden by publishing brochures, books, etc;
      - Revitalize historical pathways of the garden;
      - Conduct pedology research;
      - Monitoring the *Qantas* Water ;
      - Plan to prevent damages from pests;
      - Gather existing relevant documents and information about the garden( photos, maps, articles, and books);
      - Prepare a risk preparedness plan;
      - Prepare plants conservation plan;

- Train staff and guards of the site for cleaning, preservation, and visitor assistance.
- Long -term objectives are to:
  - Equip technical office of *Bag-e Akbariyeh*;
  - Improve tourism facilities;
  - Reform constructions in the buffer zone;
  - Conclude and perform the plants conservation plan;
  - Conclude and perform the risk preparedness plan.

**7.c. Form and date of most recent record or inventory of property:**

The most important documents in the archive of the National Base of Persian Garden are as follows:

- The documentation of trees for nine nominated gardens prepared by provincial bases in 2009;
- Archive of photographs of the nine nominated gardens;
- The documents and products related to presentation and promotion;
- The large scale maps and plans of all nominated gardens;
- Regeneration and restoration plans related to the nominated gardens;
- Approved master plans and other relevant plants that affect the nominated gardens;
- Monitoring reports of the nominated gardens;
- Reports of statement of conservation of the nine nominated gardens;
- Reports of the past restorations and interventions of the nominated gardens;
- Reference books and articles related to the Persian garden;
- Student theses related to the Persian garden;
- And other related documents.

**7. d. Address where inventory, records, and archives are held:**

- The National Base of Persian Garden Office.

*Masâudie* palace ( Cultural Heritage, Handicrafts & Tourism Organization), *Ekbâtân* Ave.,  
*Bahârestân* Sq., *Tehran, Iranm*,

Box: 11416-54813

Tel: (+98) 21-33111134 and 33953000

Fax: (+98) 21-33111139

**7. e. Bibliography**

1. A. Pavari(1975), *Monografia del cipresso in Toscana*, Firenze, Tip. Ricci, 1934, cfr. M.H. Bokhari, A new record of cupressus from SW Iran, in *The Royal Botanic Garden, Edinburgh*, 33 (3. - AJ. Arberry, *The Legacy of Persian Art*, Oxford, 1953.
2. Abolghasemi, Latif (1996), *The Norm of Persian Garden in the Mirror of History*, Collected of Articeles Peresented at the Congress of Architecture & City Planning in Bam Citadel, Second Volum, ICHHTO, Tehran
3. Abunusr-e Heravi, Qaseme-bn-e Yousof, (AH 921/ AD 1515), *Irshad-oz Zirāat* (guide for horticultures), Moshiri, Mohammad, published by Tehran University, 1967, Tehran.  
\_\_\_\_\_. Mochiri, Mohammad, ed. (1968), *Irshad az-zara'eh of Qasim Ibn Yusuf*, Tehran.
4. Adi, Chahryar (1992) , *Le Jardin habité ou Teheran des l'origine*, In *Teheran Capitale bicentenaire*. Paris: IFRI.
5. Adl, chahriyar(1992), *la jardin habite ou Tehran des l'orgine*, in *Tehran capital bicentenaire*. Paris, IFRI.
6. Afsar, Keramat- Allah, *Bag- e Fin*, Encyclopaedia Iranica 3.
7. Afshar, Iraj(1995), *Yazd Souvenirs*, Council of Cultural Monuments and Honors, Tehran
8. Aga Oglou, Mehmet (1936). *The Landscape Miniature of an Anthology*, Vol. 3, Chicago: Art Islamica.
9. Ahmadian, Mohammad (1995), *The Geography of Birjand county (or signs on Birjand's history & culture )*, Mashhad.
10. Akurgal, Ekrem(1969), *Orient et Occident*, Paris: Albin Michel.
11. Alam, Hushang, *Botanical Studies in Iran*, Encyclopedia /ranica vol IV, p. 390.
12. Alemi, Mahvash (1982), *Viaggiatori europei nei giardini persiani*, in *Islam; Storia E Civilta*.
13. Alemi, Mahvash (1984), *L'Islam e la tradizione del giardino persiano* , *Il Giardino Come Labirinto Della Storia*,atti del conveno internazionale, Palerm.

14. Alemi, Mahvash (1988), *I teatri di Shah Abbas nella Persia del xvii secolo dai disegni inediti del diario di Pietro della Valle*, in Storia Della Citta, 46.
15. Alemi, Mahvash (1993), *Il giardino persiano: struttura, imagine e riflessi*, Paesaggi E Giardini Del Mediterraneo, atti del convegno, Pompei.
16. Alemi, Mahvash (1994), *Il giardino persiano: tipi e modelli*, Il Giardino Islamico, A. Petruccioli ed..
17. Alemi, Mahvash (1994), *Il giardino reali di Ashraf e Farahabad*, Il Giardino Islamico, A. Petruccioli, ed..
18. Alemi, Mahvash (1997), *The royal garden of the Safavid period: types and models*, in Gardens of The Great Muslim Empires, A. Petruccioli ed..
19. Alemi, Mahvash (2001), *Il giardino reale in Persia e la sua relazione con il disegno urbano*, Architettura, Ecologia, atti del convegno, Genoa.
20. Alemi, Mahvash (2003), *Giardini reali e disegno del paesaggio ad Esfahan e nel territorio iraniano alla luce dei documenti inediti di Pascal Coste*, Opus, Quaderno di Storia dell' Architettura e Restauro, Universita degli Studi Gabriele d' Annunzio, Chieti.
21. Allan, John, *The Cambridge Shorter History of India*, Cambridge: S. Chand, First edition, 288 pages. p. 318.
22. Amiet, P. Elam. Paris, 1966.
23. Amirshahi, Ardavan (1987), *La ville de Qazwin en Iran et l' Evolution de sa zone commerciale* . Paris-Sorbonne, Paris.
24. Anvarie, Manoel Gomez(2004), *Persian and Spanish Garden*, Articles of the First Conference on Persian Garden, Tehran
25. Anon, *The Taj mahal (Islamic architecture)*, Islamic Arts and Architecture Organization, [http://www.islamicart.com/library/empires/india/taj\\_mahal.html](http://www.islamicart.com/library/empires/india/taj_mahal.html). Retrieved 22 may 2009.
26. Ansari, Mojtaba (2000), *Values of Persian Garden*, Ph.D Architectural Thesis, Fine Art School, Tehran University, Tehran



27. Ariyanpoor, Alireza(1986), *Research of Historical Gardens of Iran and Shiraz*, first edition, shiraz.
28. Ariyasb, Dadbeh (2004), *Persian Garden and Eden*, Articles of the First Conference on Persian Garden, Tehran.
29. Attlee, Helena (2006), *Italian Gardens- A Cultural History*, Francis Lincoln Limited Publishers.
30. Babur, *Babur-Nama* (1921), 2 vols. London.
31. Bahrami, Behrang (2002), *Environmental Design and Landscape of Pasargadae ...*, M.A Thesis in Engineering of Environmental Design, Environmental School, Tehran University, Tehran
32. Bailey, Sir Harold (1995), *Iranica Antiqua* .
33. Ball, W., *The Remains of Monumental Timurid Garden Outside Heart*, The Aga Khan Program for Islamic Architecture, Cambridge, Mass, 198/.
34. Bayazi(1971), *Guide line for historical artifacts and buldings*, the Organization of Culture and Art in kashan
35. Bazin, G. (1990), *Paradeisos*, The art of the garden, BostonLondon.  
\_\_\_\_.Bazin, Germain (1988), *L'art du Jardin*, ed:chebe, Suisse.  
\_\_\_\_.Bazin, Germain (1988), *Paradeisos, ou l'art du jardin*. Paris: Chene.
36. Beaudouin, Eugene (1933), *Ispahan sous les Grands Chahs du XVII siecle*,Urbanisme 10  
\_\_\_\_. Beaudouin, Eugene(1933). *Isfahan sous les grands Shah* , *Revue d'urbanisme* 10.
37. Beazley, E. & Haversonm. (1982), *Living With the Desert: Working Buildings of The Iranian Plateau*, Warminster, Aris & Phillips.
38. Begley, Wayne E. (March 1979), *The Myth of the Taj Mahal and a New Theory of Its Symbolic Meaning*, *The Art Bulletin* 61 (1): 14
39. Behina, Mohammadreza (2001), *Birjand,the illustrious of Desert* , university publisher,Tehran.

40. Behbahani, Homa (2004), *Conservation & Restoration of Historical Garden*, Articles of the First Conference on Persian Garden, Tehran.
41. Beheshti, Seyed Mohammad (2004), *The Ghazal of Persian Garden*, Articles of the First Conference on Persian Garden, Tehran
42. Berell, Julia (1978), *The Garden: An illustrated History*, Penguin Books, N.Y.
43. Bernard Jeannel, *Le Nôtre*, Éd. Hazan.
44. Bernus Tailer, Marth. (1989), *Le signe végétal dans le Coran*, In Arabesques et jardin du paradis. Paris: La Reunion des Musees Nationaux.
45. Beveridge, A.S., *The Babur-Nama in English*, London, /969
46. Blair, S. & Bloom, J. S., *Images of Paradise in Islamic art*, Hood Museum of Art, Hanover, /991.
47. Blakstad, R. (1986), *What is an Islamic Garden, Where is Paradise?*, Environmental Design, 7.
48. Blunt, W. (1976), *The Persian Garden under Islam*, in Apollo 103.
49. Botteros, Jean (1994), *Babylone l'aube de notre culture*. Paris: Gallimard,.
50. Boucharlat, Remy (1989), *Palais d'Artaxerxes*, Archeologia dossier 138.
51. Boucharlat, Remy (2008), *Survey and Sounding in Pasargadae Area*, Mohammadkhani, Kourosh, Shiraz (Psargadae).
52. Briant, Pierre (1992), *Darius lea Perses et l'Empire*, Paris: Gallimard.  
\_\_\_\_\_. *Histoire de l'Empire Perse*. Paris: Fayard, 1996.
53. Brookes, John (1987), *Gardens of Paradise: The History and Design of the Great Islamic Gardens*, New York: Meredith Press.
54. Bruyn, M. Cornelius Le (1718), *Voyage par Ia Mosocovie en Perse*. Amsterdam.
55. Byron, Robert (1966), *The Road to Oxiana*, New York: Oxford University Press.

- 
56. Cahen, Claud (1970), *L'Islam des I'Origine au Debut de L'empire Ottoman*, Paris: Bordas.
  57. Campbell, Joseph (1959), *The Masks of God: Primitive Mythology*, New York: The Viking Press.
  58. Carnoy, Albert J. (1917), *Iranian Mythology*, Boston: Marshall Jones.
  59. Carrol, Maureen, *Earthly Paraadises: Ancient Gardens in History and Archaeology*, British Museum Press, ISBN 071412768X.
  60. Charden, Jean(1984), *A Journey to Persia*, translated by Arizi, Hussein, Negah Publications ,Tehran
  61. Chardin, Jean. *Voyage de Paris a Isfahan*, Paris: Louis Dc L'orme, 1711.  
\_\_\_\_. *Voyage en Perse 1665-1670*. Paris: Le Normant, 1811.
  62. Chardin, Jean(2000), *Itinerary*, Rev.:Yghmaei, Eghbal, Published by Toos Co., Tehran.
  63. Chouraqui, André (1990), *Le Coran*, Paris.
  64. Christensen, Arthur (1936), *Iran sous les Sassanides*, Copenhagen: Ejnar-Munksgard.
  65. Claude Wenzler (2003), *Architecture du jardin*, Editions Ouest-France.
  66. Clavijo, Ruy Gonzalez de. (1928), *Embassy to Tamerlane 1403-1406*, London: Guy Le Strange.
  67. Clifford, Derek (1966), *A history of Garden Design*, Praeger, N.Y.
  68. Clunas, Craig (1996), *Fruitful sites: garden culture in Ming dynasty China*, pp. 240.
  69. Conti, F. Le TajMahal (1980), *Grands monuments 12*, Paris: Hachette.
  70. Copplestone, Trewin (ed) (1963), *World architecture — An illustrated history*, Hamlyn, London.
  71. Corbin, Henry (1979), *Imago Terrae Mazdeenne*, dans *Corps spirituel et lel Te celeste*, Paris.

- 
72. Coste, Pascal (1867), *Monuments modernes de la Perse, mesurés, dessinés, et décrits*, Paris: A. Morel.
  73. Cotterell, Arthur, ed. (1980), *The Penguin Encyclopedia of Ancient Civilizations*, London: Penguin Books.
  74. Crane, H., *Influence of Persian Gardens in India*, Encyclopaedia Iranica 10, pp. 305-308.
  75. Crowe, Sylvia, *The Gardens of Mughul India*, Sheila Haywood, Susan Jellicoe and Gordon Patterson, Thames and Hudson, London, 1972.
  76. Crowe, Sylvia (1972), *The garden of Mughul in India*, Thames and Hudson, London, Haywood, Sheila.
  77. Curatola G. (1985), *Gardens and Garden Carpets: an open Problem in Environmental Design*, 2.
  78. Curtis, John (1989), *Ancient Persia*. London: British Museum Publications.
  79. Curzon, George Nathaniel, *Curzon's Persia*, ed. Peter King, London, 1986.
  80. D. Gobio, *Three years in Iran*, translated by Mansuri, Zabih-o Lah, Farokhi publication, Tehran
  81. d'Allemagne, Henri-René. (1911), *Du Khorassan au pays des Bakhtiariis*, Paris.
  82. Daneshdoust, Yaqub (1972), *Islamic garden in Iran*, ICOMOS REPORT
  83. Daneshdoust, Yaqub (1984), *Iranian garden*, assar magazine, no 18-19
  84. Daneshdoust, Yaqub (1997), *Tabas the town that was: the monuments of Tabas*, Published by ICHHTO, Thran.
  85. David, Stronach (studies from 1961-1963), *A report on the excavation conducted by the British*, Institute of Persian, Pasargade
  86. Della Valle, Pietro (1745), *Voyage de Pietro Della Valle*, Paris.
  87. Della Valle, Pietro (2006), *Itinerary*, Safa, Shoja al-Din, Published by Elmi Farhangi Institute, Tehran.

88. Deputy of Studies' research report (2005), Shiraz university, solar AH
89. Dickie, James, (1985), *The Mughal Garden: Gateway to Paradise*, Mugarnas 3, Zaki, Yaqub, pp 128-137.
90. Dickie, James (1987), *Garden and Cemetry in Sinan' s Istanbul in Envier Onmental Design*, 12, pp 70-85.
91. Dickie, James (1968), *The Hispano-Arab Garden*, its Philosophy and Function, Bulletin of the School of Oriental, and African Studies.
92. Dieulafoy, Jane( 1916), *La Perse, la Chaldee et la Susiane: relation de voyage*, Frahvashi, Mohammad (1953), Published by Tehran uni., Tehran
93. Dieulafoy, Jane(1887), *La Perse, Ia Chaldde et Ia Susiane*, Paris: Hachette.
94. Dieulafoy, Marcel(1884), *L'art antique de Ia Perse*, Paris: Des Fossez.
95. Documentation of Yazd gardens: Cultural Heritage and Tourism Base of Yazd Province.
96. Documents Center of the Cultural Heritage Deputy, , Organization chart( 2006) , ICHHTO of soth Khorasan.
97. Dubeux, Louis (1841), *Perse*. Paris.
98. Dubreui!, Paul(1982), *Le Zorastrisme*. Paris: Presses Universitaires de France.
99. Dupree, N.H. (1989), *Garden in Afghanistan*, Encyclopaedia Iranica,3.
100. Echrighi, Ehsan(1982), *Art et société dans le monde iranien*, Revue Bibliotheque Iranienne ,26.
101. Editors of Time-Life Books (1988), *A Soaring Spirit*, Amsterdam: Time- Life Books.  
\_\_\_\_. *The March of Islam*. Amsterdam: Time-Life Books, 1988.  
\_\_\_\_. *Powers of the Crown*. Amsterdam: lime-Life Books, 1990.
102. Emdād, Hassan(1960), *Shiraz: Now and the Past*, Fars Press Corporation,
103. Encyclopedia Britannica, *Garden and Landscape design: Japanese*.
104. Encyclopedia of Islamic World (1994), *Word of Bagh*, Tehran.

- 
- 105.Éric Mension-Rigau, *Les jardins témoins de leur temps in Historia*, n° 7/8, 2000
- 106.Estienne, Charles, *L' Agricoltura et Casa di Villa*, Venezia, Aldo Manunzio, /58/, p. 185.
- 107.F. Lajard (1854), *Recherches sur le culte du cypres pyramidal chez les peuples civilises de l'antiquite*, Impr, de Crapelet, Paris.
- 108.Fadaei Tehrani, Manizheh(2008), *Yazd Gardens* (restored gardens), ordered by the investigation and instruction unit of Sound and Sight Organization, central branch in Yazd Province
- 109.Faghih, Nasrin (1982), *Le jardin dans l'architecture islamique*, In Jardins des pays de l'Islam. La Chartreuse Villeneuve.
- 110.Fakhar Tehrani, Farhad (2006), *The research of Persian traditional structure*, ICHHTO high educational center.
- 111.Falsafi, Nasrollah (?), *A History of the Relation between Iran and Europe*, page:104.
- 112.Farrokh yar, H. (1995), *The Architectural Cultural Development of Fin Garden Building Complex in Kashahn*, Kashahn,.
- 113.Farrokh yar, H. (1996), *A Paradise on the Margin of the Desert*, Historical Development & Architectural of the Building of Fin Garden Ensemble.
- 114.Fevrier, Dr. Joannes (1906), *Trois ans a la cour de Perse*, Paris: Imprimerie Nationale,.
- 115.Filden, Sir Bernard(2007), jokihilto, joka, *management guidance for world heritage sites*, edit by bronsen,S, translate by Hanachi, Piroz, Tehran university publications, Tehran.
- 116.Fiser, B. (1928), *Irrigation System of Persia Geographical Review*.
- 117.Flandin, Eugene (1840- 1842), *Voyage en Perse*, Pascal Coste. Paris: Gide et Baudry, 1846-7.
- 118.Forbes, Duncan (1963), *The Heart of Iran*, London: Robert Hall.
- 119.Gaffary, Farrokh (1982), *Les jardins dans les arts des pays musulmans*, In Jardins des pays de l'Islam. La Chartreuse Villeneuve.

- 
120. Galdieri, Eugenio (1979), *Relecture d'une gravure allemande*, Akten des VII Internationalen Xongresses fur Iranische kunst und Archaologie Munchen 7-10 September 1976, (Berlin Dietrich Reimer Verlag).
121. Gaub, Heinz (1979), *Iranian Ctties*, New York Unive. Press, N.Y.
122. Gayet, A. L. (1895), *L'art Persan*. Paris: Librairies-Imprimeries Reunies.
123. Geuthner (1938), *Inde: Cinq millénairs d'art*, Goetz, Hermann, Paris: Albin Michel, 1960.
124. Ghirshman, Roman (1976), *L'Iran des l'origine a l'Islam*, Paris: Albin Michel.  
\_\_\_\_\_. *Perse*. Paris: N.R.F., 1963.  
\_\_\_\_\_. *Parthes etsassanides*. Paris: N.R.F., 1962.
125. Ghirshman, Roman (1993), *Kashan Historical Hill of Sialk*.
126. Gibbon, Edward (1952), *The Decline and Fall of the Roman Empire. 2 vols.*  
Chicago:Encyclopedia Britannica.
127. Glassner, Jean Jacques (1991), *A propos des jardins mésapotamiens*, In *Les Orientales*.  
Vol. 3. Paris: Groupe pour l'étude de la civilization du moyen orient,.
128. Goblot, Henri (1970), *Les qanats*. Paris: Mouton.
129. Godard, Andre (1962), *L'art de l'Islam ,Iran, .*  
\_\_\_\_\_. ed. *Athar-e Iran*. Vol. 3. Paris: Paul
130. Godard, André (1962), *L'art de l'Iran*. Paris: Arthaud.
131. Golombek, Lisa (1989), *Garden in Islamic Period*, Encyclopaedia Iranica, 10.
132. Golombek, Lisa (1989), *Garden in Persian Art*, Encyclopaedia Iranica, 10,.
133. Golombek, Lisa (1995), *The Gardens of Timur: New Perspectives in Mugarnas vol XII*.
134. Goury and Owen Jones (1842), *Plans, Elevattons and Details of the Albambra* (2 vol),  
London, 45 Grabar, Oleg,
135. Grabar, Oleg (1978), *The Alhambra*, Harvard Univ Press, Cambridge, Mass.

- 
136. Grabar, Oleg (1973), *The Formation of Islamic art*, London .
137. Gray, Basil (1961), *La peinture persane*, Geneva: Skira, 1977, Grousset, René. Inde. Paris: Plon.
138. Cunon, G N. (1892), *Persia and the Persian Question*, London, Longman and Green., vol II, P. 132
139. Haevey, J .H. (1976), *Turkey as a Source of Garden Plants*, Garden History: The Journal of the Garden History Society, VI, autumn.
140. Haj Sayah (1967), *Sayah memories*, by trying Sayah, Hamid, Correction by Golkarof, Amir Kabir publication.
141. Halingary, William (1984), *expedition of Malcolm delegation to Iran in 1799- 1801*, translated by Amini, Amir Hoshang, first edition, Ketab Sara publication.
142. Hanaway, Jonas (1754), *An Historical Account of the British Trade Over the Caspian Sea*. London: T. Osborne.
143. Hanaway, Jr. (1976), *Paradise on Earth: the Terrestrial Garden in Persian Literature*, E.B. Mac Dougall & R. Ettinghausen ed., *The Islamic Garden*, Washington DC.
144. Harris, N. (1977), *Les tapis de l'Orient*. Pully: Princesse. Hedin, Sven. Zu Ind nach Indien. Leipzig, 1910.
145. Hasan, Abdul-Karim (1982), *History of Qom*, Correction by Tehrani, Jalal-o Din, scientific and cultural publications.
146. Hasan, Parween (November 1994), *Review of Mughal Architecture: Its outline and its history*, The Journal of Asian Studies 53 (4).
147. Hehrman, Jonas (1980), *Earthly Paradise: Gardens and Courtyard in Islam*, Berkeley: University of California Press.
148. Heinz, Walter (1997), *The lost world of Elam*.
149. Henri, Staierlin (1978), *Ispahall imaga du paradis*, Bibliotheque des Arts, Lausanne.



- 
150. Herbert, Thomas (1928), *Sir Thomas Herbert's Travel in Persia 1627/9*, London: Sir W. Foster.
151. Herdeg, Klaus (1990), *Formal Structure in Islamic Architecture of Iran and Turkistan*, New York.
152. Herodotus, *Histoires (1962)*, Paris: Les Belles Lettres,.
153. Herzefeld, Ernest, *Archeological History of Iran*, London: Oxford
154. Hicks, Jim (1975), *The Persians*, Editors of Time-Life Books, Amsterdam: Time-Life Books.
155. Hillenbrand, Robert, *Islamic architecture: form, function, and meaning*, Bagher A. Shirazi (2001), Published by Rozaneh, Tehran
156. Hillenbrand, Robert, *Islamic architecture: form, function, and meaning*, Etesam, Iraj (2004), Fourth Printing, Tehran
157. Hinnells, John R. (1975), *Persian Mythology*, London: Hamlyn Publishing Group.
158. Hoag, John D. (1982), *Architecture islamique*, Paris: Berger Levrault.
159. Hobhouse, Penelope (2003), *Gardens of Persia*, London: Cassell Illustrated,.
160. Hommaire de Hell, Xavier (1854), *Voyage en Turquie et en Perse*, Paris: R Bertrand, 60.
161. Hosseini Fasaee, Hassan (1988), *Farsnameh-e Naseri*, edited by Rastegar fasaee, Mansur, Amirkabir publication.
162. Howard, Colvin (1991), *Architecture and the after – life*, Yale university press.
163. Huart, Clement (1943), *L'Iran antique*, Paris: Albin Micheb.
164. Hyams, Edward, *A History of Gardens and Garden Design*, Praeger, Y., 1971.
165. [Islamispace.org.uk/itm.php?id\\_top=27](http://Islamispace.org.uk/itm.php?id_top=27).
166. Istakhri, Ishaq-Ibrahim-ibn Muhammad al-Farsi (1325 AD), *Al-Masālik wa Al-Mamālik*, Publisher: Elmi & Farhangi, 1989, Tehran.

- 
167. Izad-Yar, *Fin Garden of Kashan*, Armaghan magazine, No.23, P276-272.
168. Jacques Boyceau, de La Barauderie (1638), *Traite du jardinage selon les raisons de la nature et de l'art*, Paris, Michel Vanlochon.
169. Jackson, A. V. Williams (1906), *Persia, Past and Present*, A Book of Travel and Research. New York: Macmillan.
170. Jakobi, Jurgen, *Agriculture between Literary Tradition and First Hand Experience*, Irshad al-zira a of Qasimb Yusuf Abu asr-i Haravi, Timurid art and Culture of Iran and Central Asia in the Fifteenth Century, Lisa Golombek and Maria Subtelny eds., Leidem, N.Y., Kohln, 1992.
171. Jellico, Geoffrey and Susan (1975), *The Landscape of man*, Thames and Hudson, London.
172. Jellico, Geoffrey (1986), *The Oxford Companion to Gardens*, Oxford Univ. Press,.
173. Jellicoe Geoffrey & Susan (1987), *The landscape of man*, Thames and Hudson, London
174. Jellicoe, Susan (1979), *The Islamic garden, development of mughol garden*, Dumbarton Oaks, Harvard University, Washington
175. Jeyhani, Hamidreza (2007), *Bagh-e Fin*, Omrani, Seied Mohammad Ali, First Printing, Published by the Research of Cultural, Handicraft & Tourism Organization ( ICHHTO), Tehran
176. Kaempfer, Engelbert, *Am hofe des Persishen*, Leipzig: K. F. Koehler, 1940.
177. Kalantar Zarabi, Abdolkarim (1999), *History of Kashan*, by trying Afashar, Iraj, fourth edition, Amir Kabir Institute.
178. Karami, Hamid Reza (2006), *The Achaemenid Dams (Tang-e Hana)*, Records of Pasargadae, Second Volume, Archives of Pasargadae Research Foundation, Shiraz (Pasargadae)
179. Katouzian, Shahab (1986), *The Sense of Place in Persian Garden*, in *Envir Onmental Destgn*, 2.

- 
180. Keswick, Maggie (2003). *The Chinese garden: history, art and architecture*. Harvard University Press. pp. 240.
181. Khansari, Mehdi et al. (1998), *The Persian Garden: echoes of paradise*, Moghtader, Reza & Bahrami, Minouch, Washington D.C. Mage Publishers, Rev. Secretariat of the National Congress on Persian Garden, 2004. Tehran.
182. Koch, Ebba (1997), *Mughal Palace Gardens from Babur to Shahjahan*, Muqarnas 14.
183. Koch, Ebba (Hardback). *The Complete Taj Mahal: And the Riverfront Gardens of Agra*, Thames & Hudson Ltd, First ed., pp. 288 pages. ISBN 0500342091.
184. Leedy, Paul D, *Practical Research: planning and desing*, sixth edition, Merrill, Columbus, Ohio
185. Lehrman, Jonas (1980), *Earthly Paradise: Garden and Courtyard in Islam*, Univ of California Press, Berkeley.
186. Lentz, T.W. and G.D. Lowry (1989), *Timur and the Princely Vision: Persian art and Culture in the Fifteenth Century*, Los Angeles County Museum of Art.
187. Lewis, Bernard, ed. (1976), *Islam and the Arab World*, London: Thames and Hudson. \_\_\_\_\_. *The World of Islam*. London: Thames and Hudson, 1976.
188. Lesley A. DuTemple, *The Taj Mahal*, Lerner Publishing Group (March 2003). pg 26: \_\_\_\_\_. The Taj Mahal, a spectacular example of Moghul architecture, blends Islamic, Hindu and Persian styles.
189. Lockhart, Laurence (1971), *Iran's famous cities*, translated by Noriaādat, Hossein, Isfahan.
190. Lucia Impelluso, *Jardins, potagers et labyrinths*, Hazan, Paris, 2007. \_\_\_\_\_. Lucia Impelluso, "Jardins, potagers et labyrinths", Mondatori Electra, Milan
191. MacDougall, E.B. (1976), *The Islamic Garden*, Richard Ettinghausen eds, Dumberton Oaks Colloquium on the History of Landscape Architecture, Harvard Univ Press, Cambridge, Mass.

192. McKean, Marylyn, Professor of garden history at the Nova Scotia College of Art and Design.
193. M., Roaf (1998), *Persepolitan Echoes in Sassanian Architecture: Did the Sassanians attempt to recreate Achaemenid Empire? The Art and Archaeology of Ancient Persia.: New Light on the Parthians and Sassanian Empire*. Edited by Vest Sarkhosh (Curtis), R. Hiellenbrand and J. M. Rogers, London and New York.
194. Madani (1991), *History of Kashan's outlaws*, Morsal publication.
195. Magdy, Tewfik Saad (1986), *Traditional Urban Gardens in Identified Muslim Environments*, Environmental Design, I.
196. Maki, Hossein (1986), *Life Mirzá Taqi Khán Amir Kabir*, Iran publication
197. Malek-o Shoara Bahar (1956), *Malek-o Shoara Bahar's collection poems*, Amir Kabir publication.
198. Marçais, Georges. *Les jardins de l'Islam*. Paris, 1957. University Press, 1935.
199. Maria Szuppe (1996), *Palais et jardins: Le complexe royal des premiers Safavides a Qazwin*, In: Res Orientales, VIII, pp. 143-176.
200. Marnia, Gaillard (1991), *Jardin dans la littérature populaire de l'Iran medieval*, dans jardin d'Orient, publiée par le groupe pour l'étude de la civilisation du Moyen-Orient, Paris.
201. Massoudi, Abbas (2004), *Analysing the Prototype of Persian Garden*, Articles of the First Conference on Persian Garden, Tehran.
202. Massoudi, Abbas (2004), *Mahans bagh-e-shahzade*, mamari va farhang magazine, no17, Tehran
203. Massoudi, Abbas (2009), *Acquaintance with Iranian Gardens Bagh-e Shazdeh*, Faza Publication, Scientific and Cultural Institute, Tehran
204. Master Plan of Parse-Pasargadae (2003), Parhouse Consulting Engineers, Archives of Pasargadae Research Foundation, Shiraz (Pasargadae)

- 
205. Matheson, Sylvia (1979), *Persia: An Archeological Guide*. London: Faber.
206. Maxime, Siroux (1972), *Anciens voies et monuments routier de la region d'ispahan*, ed. I.F.A.O. Caire.
207. Mechin, Benoist, *rHomme et ses Jardins*, Albin Michel.
208. Melkonof, Ezod do-le (1985), *Iran-Russian's Itinerary*, Collected: Golbon, Mohammad; Talebi, Faramarz, Published by Donyaye Ketab Ins., Tehran.
209. Meir, Miriam (1987), *Islam: Prestige du passé*, Munich: J. Lazarus.
210. Meshkuti, Nosratoallah (1963), *Sarvestan dar Robe Maskoun*, Art and people magazine, No. 58
211. Micara, Ludovico (1985), *Architectturd E Spazi dell'Islam*, Rome: Carucci.
212. Miquel, André (1968), *L'Islam etsa civilization*, Paris: Arman Cohn.
213. Mirfendereski, Mohammad Amin, *Restoration and Revitalization Plan of Bagh-e Shahazadeh Mahan* (2003), Abar-Dasht Consulting Engineers, Kerman.
214. Mirfenderski, Mohammad Amin (2004), *Wath is the Persian Garden? Where is the Persian Garden?*, Articles of the First Conference on Persian Garden, Tehran
215. Mo'ayer-ol Mamalik, Doustali Khan (1993), *Private Life Notes of Nsser al-Din Shah*, Third Printing, Published by Persian History of Iran, Tehran
216. Mo'tasem-ol Dowleh, Mehdi Farrokh (1968), *Political Memories of Farrokh*, compiled by Lowshani, Parviz, Amir Kabir publications
217. Moghtader, M. Reza (1982), *Ab-Anbar, conservation de l'eau sur le palteau Iranien*, Paris: UNESCO.
- \_\_\_\_\_. "Tehran dans ses murailles." In *Tehran Capitale bicentenaire*. Paris: IFRI, 1992.
218. Mojabi, Mehdi (2004), *The Garden and Human Urban Sites*, Articles of the First Conference on Persian Garden, Tehran.
219. Moore, Charles (1988), *The Poetics of Garden*, William J, Mitchell and William Jr, Turnbull, Jr, , Mt Press, Cambridge, Mass.

220. Morgan, Jacques (1894), *de. Mission scientifique en Perse. 2 vols*, Paris: Leroux, 5.
221. Motedayn, Heshmatolah (2004), *Postures (Settlement) of Persian Garden*, Articles of the First Conference on Persian Garden, Tehran
222. Mourreau, Jean-Jaques (1977), *La Perse dans grands rois et de Zoroastre*, Geneva: Famot.
223. Moynihan, Elizabeth (1979), *Paradise as a Garden in Persia and Mughal India*. New York: George Braziller,.
- \_\_\_\_. Moynihan, Elizabeth B.(1979), *Paradise as a Garden in Persia and Mughal India*, George Braziller ,Y .
- \_\_\_\_. Moynihan, Elizabeth (1980), *Paradise as a garden in Persia and Mughal India*, Scholar pres, London.
224. Muhammad Abdullah Chaghtai (1938), *Le Tadj Mahal D'Agra (Hindi)*, Histoire et description, Brussels, p. 46.
225. Munshi, Iskandar Beyg ( 2004), *The History of Alam Aray-e Abassi*, Vol II, Edited: Afshar, Iraj, Published by Amir Kabir Ins., Tehran.
226. Muschey, Heinz (1967), *La montagne de Bistun et ses énigmes*, Archeologia 18.
227. Naeemi, Mohammad Jafar, *Jam-e Jafari*, Council of National Heritage.
228. Naima, GHolamreza (2006), *Persian Gardens* , Payam publisher , Tehran
229. Nasr ,Tahereh (2005), *Persian Garden in Transit Time*, Fars Magazine of Engineering Organization, No. 44, Shiraz
230. Nasrabadi , Alireza, *The registration reports of historic building in birjand*, Soroush, Mohammadreza, Saberimoqadam Faramarz, Hasan Abadi, Ali , birjand's cultural heritage organization's archive.
231. Nasrabadi, Alireza (1999), *National Inscription Dossier of Akbariyeh Garden*, ICHHTO of soth Khorasan
232. Nasser-al Din Shah-e Qajar, *Travel Journal of Mazandaran*.

- 
233. Nassiri, Mohammad Ibrahim (1995), *Dastur-e Shahriyaran*, Collected: Nassiri Moqadam, Mohammad Nader, Publisher: Dr. Afshar Ins., Tehran.
234. Naumann, Rudolf (1974, Berlin), *Die runinen Von Tacht-e Suleiman und Zendan-e Suleiman und umebung*, Rev.: Ndjed Samii, Faramarz (2004), Second Printing, Published by Cultural, Handicraft & Tourism Organization (ICHHTO), Tehran
235. Nilufari, Parviz (1986), *Iranian garden*, Jahad Daneshgahi, Tehran.
236. *Nomination dossier of Pasargadae (31 December 2002)*, Gholshan Jalil et al., Unesco World Heritage Convention Nomination of Properties for inclusion on the world heritage list ICHHTO, Tehran.
237. O'Donnell, Terrence (1980), *Garden of the Brave in War: Recollections of Iran*, Chicago: University of Chicago Press.
238. Olivier, de Serres, *Il est à souhaiter que les jardins soient regardés de haut en bas, soit depuis des bâtiments, soit depuis des terrasses rehaussées à l'entour des parterres*, in Théâtre d'architecture ou Mesnage des champs, 1600, cité par Bernard Jeannel, Le Nôtre, Éd. Hazan, p. 26
239. Olmstead (1923), *History of Assyria*, Cameron, *History of Early Iran*, 1948.
240. Omrani, Seyed Mohammad Ali (2004), *The Important Aspect of the Persian Garden Reorganization*, Articles of the First Conference on Persian Garden, Tehran.
241. Orsolle, Ernest (1885), *La Caucase et la Perse*, Paris: Pbon.,.
242. Ouseley, W. (1819), *Travels in various countries of the East; more particularly Persia*, London, Rodwell and Martin, pp. 90-91.
243. Pakravan, Emineh (1971), *Teheran de jadis*, Geneva: Nagel.
244. Papini, R. (1976), *Al Cipresso*, in *Del Cipresso*, Firenze, Giunti Marzocco.
245. Parrot, André (1961), *Assur*. Paris: N.R.F.  
\_\_\_\_\_. *Orient ancien*. Paris: Hachette-Realites, 1979.
246. *Pasargadae Research Foundation Archive*, Shiraz & Tehran.

- 
247. Paul Ward English (1966), *City and Village in Iran: settlement and economy in the kirman basin*, The university of Wisconsin press, London
248. Perrot, Georges and Charles Chipiez (1892), *History of Art in Persia*, New York: A. C. Armstrong and Son.
249. Petruccioli, Attilio (1976), *Gardens in the time of the Great Muslim Empires: Theory and Design*, E.J. Brill, Leiden, N.Y. -Pinder-Wilson, R., *The Persian Garden: Bagh and Chahar Bagh*, in *The Islamic Garden*, ed MacDougall and Ettinghausen, Washington DC.
250. Petruccioli, Attilio (1985), *Dar el Islam*, Rome: Carucci.
251. Petruccioli (1980), *Islam et territoire*, Centre de Recherches en Architecture & Urbanisme, Algeria
252. Philippe Prevot, *Histoire des jardins*, Editions Sud Ouest, 2006  
\_\_\_\_\_. Philippe Prévôt, *Histoires des jardins*, Éditions Sud Ouest, Bordeaux 2008
253. Piepkom, A.C., *Historical prism inscription of Ashurbanipal*, I, oriental institute N.5.1933:62-69 ; und die letzten assyrischen Könige bis zum Untergang Nineveh's. Vorderasiatische Bibliothek 1916, 310-317, 322-333 ; Luckenbil, *Ancient Records of Assyria and Babylonia* V 01.2, 1927, 310-318
254. Pinder-Wilson, Ralph (1976), *The Persian Garden: Bagh and Chahar bagh*, A paper delivered to Dumbarton Oaks.
255. Piotrovski, Boris (1970), *Ourartou*, Geneva: Nagel.
256. Pirak, Mehdi (2005), *Pathology of Resident Palace*, Records of Pasargadae, First Volume, Archives of Pasargadae Research Foundation, Shiraz (Pasargadae)
257. Pirnia, Mohammad Karim (1993), *An Introduction to Islamic Architecture of IRAN*, Collection by Gholam Hossein, Memarian, Tehran
258. Pirnia, Mohammad Karim (1994), *Persian Gardens*, abadi magazine, no 15, p 4-9
259. Pirnia, Mohammad Karim (2003), *Stylistics of Iran Architectural*, Collection by Memarian, Gholam Hossein, Second Printing, Published by Pajihandeh, Tehran



260. *Poetry work of Saed Tabrizi*, page: 837.
261. Polou, C. and J. Polou (1962), *La Perse antique*, Paris: Presses Universitaires de France,.
262. Pope, Arthur Upham (1938/9), *A Survey of Persian Art (from prehistoric times to the present)*, Ackerman, Phyllis, Vol.3, New York: Oxford University Press,.  
\_\_\_\_. Pope, Arthur Upham (1881-1969), *survey of Persian Art*, Ajand, Yaqub (1999),  
Published by Mola Co. Tehran.
263. Pope, A.U., & Ackermanph (1936), *Gardens*, S.P.A., chapter 44.
264. Pope, A.U. (1976), *Introducing Persian Architecture*, Soroush Press, Tehran.
265. Pope, A.U., *Persian Architecture*. george braziller, N.Y.
266. Porada, Edith (1963), *Iran ancient*, Albin-Michel, Paris.
267. Porter, Sir Robert Ker (1820), *Travels in Georgia, Persia, Armenia and Ancient Babylon*, 7817, London: Longman, 1821.
268. Porter, Yve. (1994), *Artisans et artistes a la cour des princes Safavides*, Archeologia 307.  
\_\_\_\_. "Splendeur de l'architecture safavide." Archeologia 304 (1994).
269. Pougartchenkova, Galina (1981), *Chef d'oeuvre d'architecture de l'Asia Ceotrale*, Paris: UNESCO.
270. Pregill, Philip & Volkman, Nancy (1993), *Landscape in History*, London, Van Nostrand Reinhold, London
271. Prest, John, *The Garden of Eden: The Botanic Garden and the Re-creation of Paradise*, Yale Univ Press, New Haven,
272. Prevot, Philipp (2002), *Histoire des Jardins*, Editions Sud-Ouest, Boredeux.
273. Pugachenkova, G., *The Art of the Central Asian Gardens and Parks in the Time of Tamerlane and Timurids*, in Works of the Central Asia State University, Tashkent, 1951, Rabbat, asser, *The Place of the Lions in Alhambra and the Role of Water in its Conception*, Aarp, Environmental Design 2, 1985.

274. Qazvini, Mohammad (1941 ), *Divan-e Hafez*, Qani, Qassem, Tehran.
275. Qazvini, Vahid (1950), *Abbas Nameh* , Taher, Mohammad , Correction by Dahgan, Ebrahim, Farvardin publication.
276. Rabino, L.H (1987), *Mazandaran-Astar Abad*, Mazandarani, Vahid & Qolami, Ali, Published by Elmi Farhangi Ins., Tehran
277. Raisons, Denis, *Source Perse des jardins de 'Islam*, In *Jardins de Mdditerrande*. Villeneuve-les-Avignons et Monaco.
278. Randhawa, M.S. (1976), *Gardens Through the Ages*, Macmillan, Dehli.
279. Rene, Pechere (1973), *Etude de jardins historiques en Iran*, Unesco, Paris .
280. Rezaie, Jamal (2002), *Birjand nameh* , hirmand publisher , Tehran.
281. Ridolfi, R. (1976), *La morte dei cipl'essi*, *Del Cipresso*, Firenze.
282. Roches-Noblecourt, Christine de. (1946), *Style dgyptien*, Paris: Larousse.
283. Ross, E. Denison, ed. (1930), *Persian Art*, London: Luzac and Company.
284. Ruggles, D. Fairchild (2007), *Islamic Gardens and Landscapes*, Published by university of Pennsylvania press, Philadelphia, printed in Canada.
285. Sackville-West, Vita (1953), *The Persian Garden. In The Legacy of Persia*, edited by A. J. Arberry. Oxford: Oxford University Press.
286. Safaii, Mehran (2009), *Typology report of Akbariyeh Garden*, ICHHTO of soth Khorasan.
287. Saidi, Farokh (1999), *Guide Book of Persepolis, Naqsh-e Rostam & Pasargadae* , Second Printing, Published by Pazineh Cultural Institute, Tehran
288. Sami, Ali (1965), *The Oldest Imperial Capital of Iran*, Rev: Norman Sharp, Ralph, Shiraz
289. Sanson (1695), *Voyage ou Relation de l'Etat Present du Royaume de Perse*, Paris: Marbre Cramoisi,.
290. Sarkhosh-Curtis Vesta (1994), *Myrhes Perse*, Paris: Sagesse.

- 
- 
291. Sazeh & Setaviz consultant (2006), *Restoration plan of Akbariyeh garden Stable*, ICHHTO of soth Khorasan.
292. Sceroto, Umberto (1977), *Islam*. Paris: Fernand Natan,.
293. Schaerl, Lillian (1996), *Prestel guide Munich*, Prestel-verlage, munich
294. Schimel, Annemarie (1984), *Water and Architecture*, journal of the Islamic environmental design research center
295. Schimmel, A.M. (1985), *The Water of Life*, in Environmental Design, 2.
296. Schimmel, Anne Marie (1976), *The Celestial Garden*, in Elizabeth MacDougall and Richard Ettinghausen, eds, *The Islamic Garden*, Dumberton Oaks, pp 13-39.
297. Schlucberger, D. (1952) *Le palais Ghaznavid de Lashgari Bazar*, Syria 29.
298. Schroe, Enge (1992), *Garden Achitecture in Europe*, Taschen
299. Sercey, Comte Edouard de, *Une ambassade extrao dinare Ia Perse en 1839-40*, Paris: L'Artisan du Iivre, 1928.
300. Serena, Carla (1883), *Hommes et choses en Perse*, Paris: Charpetier et Cie.
301. *Shahnameh*, Translated by; Joule Mole, organization of pocket books, 1966, Vol. VII.
302. Shamse, Yazd consultant (2008), ICHHTO of soth Khorasan.
303. Shapur Shahbazi, A. (2000), *Comprehensive Guide of pasargadae, Naghsh-e Rostam & Pasargadae*, First Printing, Published by Persian Astronomy, Tehran.
304. Shapur Shahbazi, A. (2004) *The Authoritative Guide to Persepolis*, Published by Sfiran Co., Tehran.
305. Sharif, Hamid-Reza (1384), *A Review of Historical Course and Identification of the Architectural Style of Bagh-e Eram*, Deputy of Studies' research report, Shiraz University
306. Shirazi, Forsat-ol Dawleh (1933), *Āsār-e Ajam*, Mumbai.
307. Shirazi, Mirza Saleh (1985), *Itinerary of Mirza Saleh-e Shirazi*, first edition, History of Iran publication.

308. Shirmohenji, Hasan (2006), *The Executive Project for organizing and restoring historical city Birjand*, Hasan, Shabani, the cultural heritage of southern khorasan, Birjand.
309. Slawson, David A., *Secret Teaching in the Art of Japanese Gardens*, New York, Tokyo: kodansha, 1967.
310. Smith, John A. (1995), *Gardens of Persia*, Journal of Landscape Design. ov. p8.
311. Soltan Zadeh, Hossein (1999), *Continuance of Persian Garden Designing in Taj-Mahal: Mausoleum of an Iranian Lady*, First Edition, Cultural Research Bureau, Tehran.
312. Sourdél, Dominique and Janine Sourdél (1968), *La civilisation de l'Islam classique*, Paris: Arthud.
313. Stchoukine, Ivan (1959), *Les peintures des manuscrits de Shah Abb*, Paris: Paul Geuthner.
- Stetie, Sallah (1982), *Jardin de Sem*, In jardins des pays de l'islam La Chartreuse Villeneuve.
314. Stevens, R. (1974), *The Land of the Great Sophy*, London, Methuen & Co Ltd.
315. Stevens, Garry (1990), *The reasoning architect*, Mc Graw-Hill
316. Stronach, D. (1989), *Chahar-bagh*, Encyclopedia Iranica, ed Ehsan Yarshater, vol IV, London and .Y.
317. Stronach, D. (1990), *The Garden as A Political Statement*, Some Case Studie,s From The Near East In The First Millenium B.C, ulletin of the Asia Institute 4.
318. Stronach, David (1965), *Pasargadae* , A Report on Excavations (from 1961 to 1963), Conducted by the British Institute of Persian Studies, Oxford,
319. Stronach, David, *The form of Royal Garden of Pasargadae, and Its Influence on Persian Gardens*, Iran Quarterly magazine on Science, Teqnique and Art by ICHHTO, issues 22&23, Tehran.
320. Stronach, David (1989), *The Royal Garden at Pasargad, Evolution and Legacy*, Archaeologica Iranica Et Orientalis Miscellanea in Honorem Louis Van den Berghe, Ghent.

321. Stolper (1984), *El Surveys of Politieal History and Archaeology*.
322. Stierlin. Henri (2006), *Splendors of Ancient Persia*, Publisher White Star.
323. Subtenly, M.E. (1993), *A Medieval Persian Agricultural Manual in Context*, the Irshad al-zira a in Late Timurid and Early Safavid Khurasan, *Studia Iranica*,22.
324. Subtenly, M.E. (1995), *Mirak-i Sayyid Ghiyas and the Timurid Traditions of Landscape Architecture*, in *Studia Iranica*,24.
325. Sykes, Percy Molesworth ( 1867-1945), *Ten Thousand miles in persia or eightyyears in Iran: with numerous illusteatons*, :.RevSaādat, Nouri, Tehran
326. Tabbari, Mohammad-Ibn-e Jrir (400AH), *Tarikh-e Tabari*, Bal-ami, Abu-ali, (Nvaai, Abdol Hossien, *Historic Text in Persian*,Published by Samt Institite, 1996.Tehran.)
327. Tabbaa, Yasse (1987), *Towards an Interpretation of the Use of Water in Islamic Courtyards and Courtyard Gardens*, in *Journal of Garden History*.
328. Tabbaa, Yasser (1992), *The Medieval Islamic Garden: Typology and Hydraulics*, in John Dixon ed, *Garden History: Issues,Approaches,Methods*, Dumberton Oaks, pp 303329.
329. Tabbaa, Yasser (1987), *Towards an Interpretation ofthe Use of Water in Islamic Courtyards and Courtyard Gal'dens*, in *Journal of Garden History*,7,3.
330. Taj Mahal History, <http://www.ourworldwonders.com/TajMahal/History.htm>.
331. [Taj-mahal-travel-tours.com](http://Taj-mahal-travel-tours.com)
332. [Taj-mahal.net](http://Taj-mahal.net)
333. Talebian , Mohammad Hassan (2004), *Persian Garden & Pasargadae*, Articles of the First Conference on Persian Garden, Tehran
334. Tavernier, Jean Baptiste (1964), *Voyages en Perse*, Paris: Club des Librairies de France,.
335. Tehran university (2005), geographical institute, the climaticallyatlas of Iran, Tehran
336. Texier, Charles (1842), *Description de l'Armdnie Ia Perse, et Ia MEsapotamie*, Paris: Firmin Didot freres.

337. Thacker, Christopher (1979), *The History of Gardens*, Croom Helm, London.
338. The Central Climatology of Birjand(2008), The bioclimatic of southern khorasan.  
Birjand
339. The Consulting Engineers of Shamse-e Yazd (2009), The conservation & revitalization planning in Akbarieh Garden , the cultural Heritage Organization of Southern khorasan , Birjand.
340. The Library of Research Center of ICHHTO, the executive department, Legal management, and International cooperations, September 2006
341. *The English Garden*(2008), Phaidon Press, London.
342. The Taj by Jerry Camarillo, Dunn Jr.
343. *The travels of ibn Batuta, With notes...*, Rev. Samuel Lee, London: Darf publishers, 1984
344. Tillitson, G.H.R. (1990), *Architectural Guide to Mughal India*, Chronicle Books.
345. Titely, Norah(1999), *Wood, Frances Oriental Gardans*, Chronicle book, San Francisco
346. Titley, Norah (1977), *Plants and Gardens of Persian, Mughal and Turkish Art*. London: British Library.
347. Trachenbeg, Marvin (1989), Hayman Isable, *Architecture from prehistory to post modernism*, Abrams.B, Netherland.
348. Varely, P(2000), *Japanese Culture*, Forth Edition, The Mapel, Vaile Book Manufacturing Group, Retrieved August 3, 2008. from:  
<http://www.netlibrary.com.ezproxy.umuc.edu/reder>
349. Valle, P. Della (1672), *Viaggi descritti in lettere familiari all'erudito suo amico Mario Scipano La Persia*, Bologna, Longhi.
350. Van Zuylen, Gabrielle (1994), *Tous les jardins du monde*, Paris: Gallimard.
351. Vanden Berghe, Louis (1966), *Archeologie de l'Iran ancien*, Leiden.  
\_\_\_\_\_. Reliefs ruprestres de l'Iran ancien. Brussels: Musees Royaux d'Art et d'Histoire, 1983.  
\_\_\_\_\_. Splendeur des Sassanides, Brussels: Musees Royaux d'Art et d'Histoire, 1993.

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352. Vaziri, Ahmad Ali Khan (1945), *Kerman Geography*, Farhang magazine, Tehran
353. Vaziri, Ahmad Ali Khan (1954), *A History of Kerman (Salariyeh)*, Tehran.
354. Venturi, Robell (1967), *Complexity And Contradiction In Architecture*, New York.
355. Villier-Stual, Constance M. (1913), *Gardens of The Great Mughuls*, A&C Black Publishers, London.
356. Volwahren, Andrea (1971), *lode islamique*, Fribourg: Office de Livr.
357. Von Hagen, Victor. (1981), *La vole royale des Perses*, Paris: France Empire.
358. Watson, Andrew.M (1984), *Agricultural Innovation in the Early Islamic World: the diffusion of crops and farming techniques*, translated: Naseri, Freshteh, Tehran.
359. Wescoat, J.L (1986), *The Islamic Garden: Issues for Landscape Research*, Environmental Design.
360. Wescoat, J.L. (1996), *Mughul Gardens: Sources, Places, Representations And Prospects*, Wolschke-Bulmahn Washington DC.
361. Wescoat, J.L. (1989), *Picturing in Early Mughul Garden*, in Asian all, 2.
362. Widengren, Ceo. (1968), *Les religions de l'Iran*. Paris: Payot,.
363. Wikipedia, the free encyclopedia site. <http://www.wikipedia.com>
364. Wilber, D.N., *Baghe Fin near Kashan*, AI'S Oriental is, 2,
365. Wilber, Donald (1969), *Persian Gardens and Garden Pavilions*, Saba, Mahindokht, Elmi Farhangi publisher (2004), Tehran.
366. Wilber, D. (1979), *The Timurid Court: Life in Gardens and Tents*, IRA, 17.
367. Wilber, Donald (1989), *Persepolis*, The Archaeolog., of Parsa. Seat of the Persian kings (revised edition), New Jorsey. the Darwin Press. Inc., pp. 2-3, 10-12. 110-114.
368. Wilhelm, Eilers (1989), *Garden: Etrvnoology*, Encyclopaedia Iranica.
369. Woldering, Irmgard (1963), *Egypte*, Paris: Albin Michel,.

370. World Heritage Community site. <http://www.WHC.unesco.org>
371. Wright, Karen (July 2000), *Moguls in the Moonlight plans to restore Mehtab Bagh garden near Taj Mahal*.  
\_\_\_\_\_. Discover, [http://findarticles.com/p/articles/mi\\_m1511/is\\_7\\_21/ai\\_63035788](http://findarticles.com/p/articles/mi_m1511/is_7_21/ai_63035788).
372. Xenophon (1967), *Oeuvres de Xenophon*, Paris: Garnier-Flammario.
373. Yaqut (1866), *Mu'jam al-boldan*, Leipzig, 73.
374. Yazdi, Sharaf-al Din Ali (1957), *Zafar Nāmeḥ*, edited by Abbasi, Muhammad, first edition, Tehran.
375. Yves-Marie, Allain (2006), *L'art des jardins en Europe, Citadelle at Mazenot*, Janine Christiany, Paris,
376. Zafaranloo, Roqaieh (2004), *The image of birjand's cultural heritage*, Hamzei, Hamzeh the cultural heritage publisher, Tehran.
377. Zangheri, L. (1997), *I giardini del Gran Serraglio, in Il giardino e le mura Ai contorni fra natura e storia*, (atti convegno a cura di C. Acidini Luchinat, G. Galletti, M.A. Giusti), Firenze, Edifir.
378. Zarei Kordshouli, Farhad (2006), *The Mid-road Hill and Some Discovered Achaemenid Sites around*, Records of Pasargadae, Second Volume, Archives of Pasargadae Research Foundation, Shiraz (Pasargadae)
379. Zarkoob Shirazi, Abul Abbas Ahmed (1931), *Shiraz Nāmeḥ*, edited by Karimi, Bahman, Tehran
380. Zeitlin, Edith (1993), *Jardins antiques, jardins des dieux*, Revue Historia 24.
381. Zel-ol Sultan, Mas'oud Mirza (1984) *The Date of Mas'oudi's Death*, Yasavoli publications
382. Zingari, L. (2003), *Storia del giardino e del paesaggio*, Italia.



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Persian Glossary:<sup>1</sup>*Ab*

water; river ; prosperity , power, glory This word is much used to make compounds and metaphorical expressions

*Ab anbar*

ab= water + anbar = a pond, a reservoir

*Ab Chekan*

eaves

*Ab Gardan\**<sup>2</sup>

Water weel

*Ab khiz*

a spring, an issue of water, springy ground, where Water is found after digging a little dept , a canal, Aqueduct

*Ab khwur*

a lake, pool or ditch; a fountain head;  
a watering place on a river's bank

*Ab nama*

ab+ nama, nama=showing, a shallow water basin usually in front of a building in gardens

*Ab pakhshan*

compound of water =ab and division= bakhsh or pakhsh.

The word bakhsh as well as the term bagh for garden derived from the same root bagh that meant partition.

*Ab rah*

a canal, conduit, pipe, aqueduct, watercourse, channel of a river, any place through which water flows.

*Ab rasani*

ab + rasani = to cause to arrive, to convey, to carry and Deliver

*ab rizgan*

a festival celebrated on the 13th of the month Tir, during Which the people in their visits sprinkle water one another With orange – flower, rose or pure water.

*Ab yari*

irrigation, to irrigate, ab yari kardan=to water (Fields).

*Abad*

a city, building, habitation, Cultivated, peopled, full of buildings and inhabitants, when added to a noun it denotes a city or place of abode

*Abad kardan*

to cultivate, render delightful, improve, recreate, refresh

*Abdan*

a vessel holding water, a cistern, or any reservoir of water as a lake, ditch, or bath



a pond , lake conflux of water

*Abgir*

any hollow place where water collects or stagnates; A pool, pond, ditch;

*Abshar*

a waterfall, a cataract

*Alachiq*

felt tents.

*Anaristan*

a pomegranate garden.

*Andarooni\**

internal, private space

*Anguristan*

a vineyard

*Apadanaa*

loggia supported by columns or great columned room.

*Aramgah*

a place of rest , tomb, mausoleum

*Avesta\**

the ancient holy book of the *Zoroastrians*

*Awrang*

a throne, Glory, Heaven

*Ayinakari*

decorative mirrors , ayineh khaneh

Compound ayineh=glass+ khaneh=house

*Ayvan ( Iwan, Ivan)*

A sofa;

A portico, an open gallery, verandah, balcony on the top of The house, for the benefit of the prospect and fresh air; A palace;

the heavens ayvan-i zarkari;

the sphere of the moon ayvan-i mah;

the heaven of this world.

*Ayvan-i kasra*

kisra= from Pahlavi Chosroes, azhar Flowers;

flowering, blossoming ;

*Badgir\**

ventilation tower, wind catcher

*Bagh*

a garden;

a vineyard;

the world;

the face of the beloved

*Bagh*

A ditch

(Z. bagho), name of an idol;

A god (enters in the composition of names, as baghdad= God given)

*Baghban*

A gardener , A vine dresser

*Baghbani*

The care of a garden, horticulture;

Baghbani numudan =to keep or dress a garden, to practice Horticulture

*Baghcha (baghcheh)*

A little garden, a garden

*Bagh-i iram (Eram)*

The name of the fabulous gardens, said to have been devised by Shaddad in emulation of the gardens of paradise

*Bagh-i takht*

A compound of bagh=garden + takht = throne , terrace.

*Baghistan*

Compound bagh= god + istan =place

*Bahar*

Spring, beginning of summer , a blossom, Orange flower (bahar-i narinj), A Buddhist temple

An idol, the harem of a prince

A species of odoriferous herb

Anything beautiful and splendid

*bahar afshan* = scattering blossoms

*baharan*= the spring

*bahar band*= An airy house inhabited in spring time; a place where horses are tied up in spring

*bahar khana* = any high building

*Baharkhwab*

The text refers to the baharkhwab of the bridge Khwaju in Isfahan, that was unique, no place had a better view and was cooler than the arcades above the bridge and the terraces below the arches

*Balakhana*

an upper chamber, gallery, or balcony on top of the house, a parlour;

*Banafsha zar*

banafsha push =Covered or adorned with violets

*Band*

dam, dike, or any enclosure of water

*Bandab*

a dyke, embankment, an island

*Bar-i- am*

public audience

*Baru*

a wall, rampart, bulwark, fortification, a fort, a tower, Battlements, embrasures

*Bihisht*

Paradise, Heaven

bihisht zar= oCq PjèF =a place like heaven

*Biruni*

External

*Bisarda*

Ploughed, Watered

*Bisutun*

without pillars, Name of a mountain in Persia, the heavens

*Biyaban*

Uncultivated, desert

*Borj*

a tower, a dove-cote, a star constellation, the station of a planet

*Bum*

a country , region

desert land not yet cultivated

a mansion or place where one dwells in safety

*Bustan*

(place of perfume), a garden, a kitchen garden, a green spot;

name of many Arabian and Persian books, the most celebrated of which is the Bustan -i Sa.di

*Bustani*

hortulan, a gardener

*Chahar juy*

the rivers of paradise;

*Chahar Bagh\**

*the layout of Persian garden ,four gardens*

*Chahar t.aq( Char Taghi)\**

square dome

*Chaman*

an orchard, fruit-garden

a meadow, green field, verdant plain, garden plot or bed, raised border, parterre, avenue

a pasture ground

a gardener,

*Chaykhaneh\**

teahouse

*Chehel Sotun\**

forty columns

*Cheshmeh-Tagh\**

Covering small spaces by a dome with an penning in the center

*Chinaristan*

a grove of plane trees

*Chineh \**

a layered Earthen wall

Chinikhana (chinikhaneh)

a place where china is kept; an apartment adorned with china

*Chishma (chishmeh)*

a fountain, source, spring, a vaulted arch

chishma-yi akhzar= fountain of immortality

chishma-yi pul=the arch of a bridge

chishma-yi khizr= the fountain of life

chishma-yi salsabil= a spring or river in paradise

chishma-yi nush = fountain of life

*dasdaryacha*

a lake, pool

*Dasht*

a desert, plain without water, a burial ground

*Dawlatkhaneh*

a palace, The king's palace

*Divankhana(divankhaneh)*

a tribunal, office, a hall of audience

*Eram\**

heaven

*Eslimi\**

spiral floral motifs, arabesque

*Favvareh*

a jet d'eau, fountain, spring

*Filpoosh\**

*A kind of pendentive*

*Firdaws*

a garden, vineyard, paradise

a fertile valley

*Garmkhaneh\**

a hot place in *Hammam*, subterraneous dwelling for warmth a green house, caldarium

*Gavro\**

a place serves for bringing out the water from the well with the force of a cow (=Gav)

*Ghatar Bandi, Kar Bandi\**

a kind of architectural decoration

*Gol\**

flower

*Golistan*

a rose garden, a flower garden, a celebrated Persian book in prose and verse, by Shaykh Sa'di (born AD.1175 died 1291)

*Golshan*

a rose or flower garden, a bed of roses or flowers, a delightful spot, a pleasure palace,

gulshan-i quds=the highest heaven,

gulshan aray= a gardener, horticulturist

gulshan saray= a garden palace

Gunbad

an arch, vault, cupola, dome, tower,

bud of a flower

gunbad-i azraq, gunbad-i muqarnas...=the vault of heaven

*Hammam\**

bathhouse

*Hashti\**

entrance space in Persian architecture

*Hojreh\**

room

*Howz*

a large reservoir of water, basin of a fountain, pond, tank,

vat, cistern

<sup>h</sup>. awz -i kawsar= a reservoir of nectar in Paradise

<sup>h</sup>.awzcha= h. awzak= a small reservoir, cistern

<sup>h</sup>. awzkhana= a building containing basins of water

*Howz-khaneh\**

A room with a basin in the middle

*Julaw-khan*

front, façade of a house

*Juy*

a running stream, rivulet

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a canal or gutter cut for the purpose of irrigation

*Juybar*

a great river formed by the confluence of many smaller streams, a river bank, a place abounding in streams

*Kahgel\**

mud and straw mortar

*Kakh*

a palace, villa, summer-dwelling

an apartment at the top of the house open to front, an upper story, a tower, gallery, balcony, battlements or any similar erection for the benefit of air or a prospect

*Kariz(Qanat)*

a subterranean canal, a ditch dug around a field to convey water

*Kart*

a piece of ground in tilth or tillage; tilth ground

*Kashi\**

*Tile*

*Khalvat khaneh\**

a private space in the Persian house

*Khana (khaneh)*

a house, dwelling, habitation, a tent, pavilion

ayina khana= a house or apartment adorned with mirrors

*Khofteh\_rasteh\**

a traditional pattern of Persian brickworks

*Kkhiyaban*

a parterre, flowerbed, an avenue

*Korsi Chini\**

Performing the foundation of a wall or building

*Kucha bagh (Kucheh bagh)*

Kucha= a narrow street

a lane, slum, row, passage

a street, square, market-place

Kucha-yi bagh= the street leading to the gardens

*Kulahfarangi*

A pavilion

*Kushk\**

a palace, villa, a castle, citadel, The main pavilion in the middle of the Persian garden

*Lat\**

Water distribution place

*Madi\**

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uncovered water canal in the historical city of Isfahan

*Mahtabi*

lit by the moon; a balcony or terrace ( to enjoy the moonlight)

*Mardaaneh\**

a space special for men

*Matbakh\**

kitchen

*Maydan (meydan)*

an open field without buildings, an extensive plain, a race ground or any place for exercises or walking, an arena, parade ground, a field of battle, maydan gah= a public square

maydan-i chawgan= polo ground

maydan-i asb davani= horse riding ground

*Nahr*

a stream, a river

*Nakhlistan*

a palm –plantation

*Nareh*

a manner of tiling

*Nouruz\**

iranian new year's celebration (late March and Early April)

*Orsi\**

latticed wooden window

*Paliz*

kitchen garden, a seed field, melon ground

*Panjdari\**

a type of room in Persian architecture with five windows

*Pardis \**

paradise, heaven, garden

*Payab*

a well, any shallow stone reservoir of water easy of access

the bottom of a pond or a piece of water

*Pol*

bridge

*Qous-o-Chaft\**

Arch

*Ravaq*

A house resembling a tent being supported on one pillar, a curtain stretched like a canopy before a tent or the door, of a house, A portico, Porch, A gallery resting in front of a house, A lofty building resting on columns

*Sabat\**

a small building serves for resting or covered passage

*Sakku*

a sofa, bench, garden-seat

*Sara*

a palace, mansion

*saray*

A house, palace, grand edifice, king's court, seraglio, saray-i baqa= the mansion of eternity, the other world, saray-i surur= a tavern, paradise

*Sarbineh\**

the apoditerium in a *Hammam*

*Sardar*

The lintel of a door, entrance

*Sarv*

The cypress tree

A fir tree

*Sarvistan*

A place abounding with cypresses

*Shah*

A king, sovereign, emperor, monarch, prince.

*Shah Nameh\**

Book of Kings written by Abolghasem Ferdowsi

*Shahnishin*

The seat of the king i.e. a gallery or balcony projecting, from the palace, where the king shows himself to his people, a balcony gallery, portico or similar projection

*Shahzadeh\**

prince

*Shotorkhan\**

The resting place or room for quadruped

*Shuturgalu\**

S or U shape Pipe or watercourse in Traditional water systems

*Tagh-e Jenaghi, Tagh Dozd*

Tow kinds of vault

*Takht*

A royal throne, chair of state, a seat, sofa, a bed

any place raised above the ground for sleeping, sitting or reclining, a capital, the royal residence

*Talar*

a bed chamber or saloon, built of wood and supported by four columns; a throne

*Talar-e Ayeneh\**



a hall with mirror ornaments

*Tanboosheh*\*

Pottery water pipe

*Tavizeh Kajaveh*\*

A type of vault

*Sineh Kabki*\*

An ornamental pattern in watercourses or water falls in Persian gardens

*Waghf*\*

The Endowment and Charity Affairs Organization in Iran

*Zemestan-khaneh*\*

winter residence

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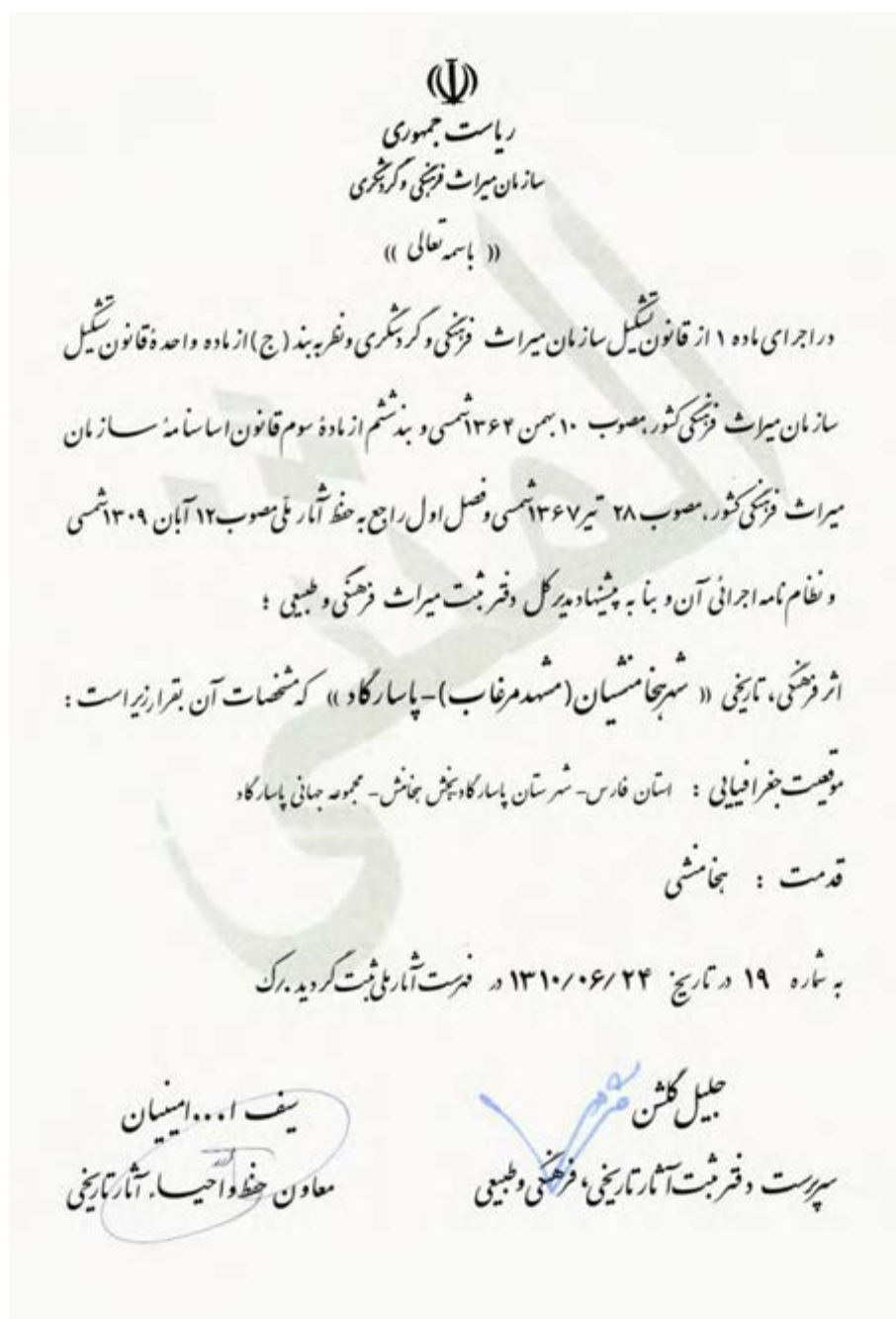
<sup>1</sup> <http://middleeastgarden.com>

<sup>2</sup> The National Base of Persian Garden

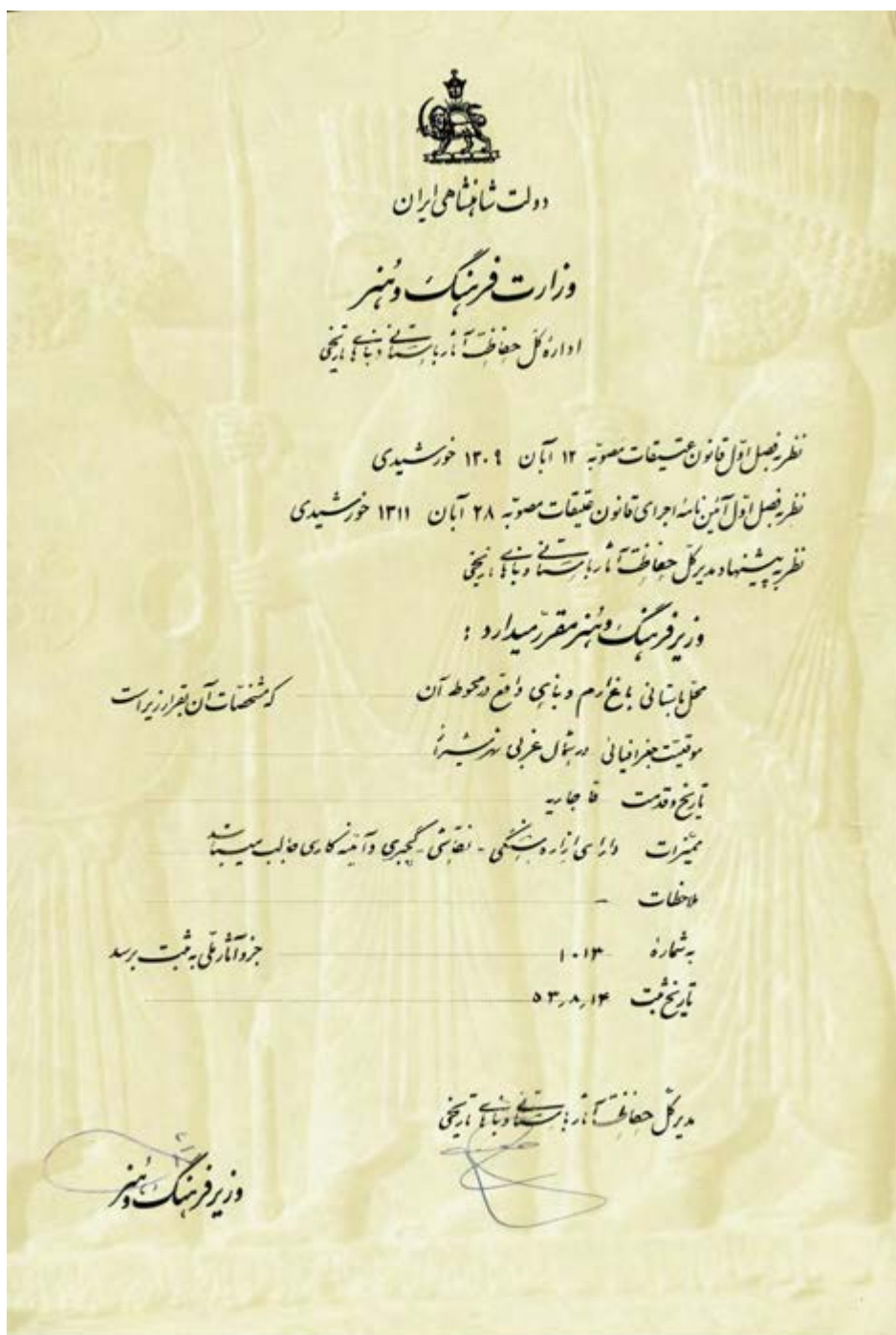
**National Registration documents of the Nominated Gardens:**

<b>Province</b>	<b>City</b>	<b>Bagh name</b>	<b>National Registration number</b>
Fars	<i>Shiraz</i>	<b><i>Ancient Garden of Pasargadae</i></b>	19
	<i>Shiraz</i>	<b><i>Bagh-e Eram</i></b>	1013
Isfahan	<i>Isfahan</i>	<b><i>Bagh-e Chehelsoton</i></b>	108
	<i>Kashan</i>	<b><i>Bagh-e Fin</i></b>	238
Mazandaran	<i>Behshahr</i>	<b><i>Bagh-e Abas Abad</i></b>	745
Kerman	<i>Mahan</i>	<b><i>Bagh-e Shahzadeh</i></b>	1012
Yazd	<i>Yazd</i>	<b><i>Bagh-e Dolat abad</i></b>	774
	<i>Mehriz</i>	<b><i>Bagh-e Pahlevanpour</i></b>	6334
Southern Khorasan	<i>Birjand</i>	<b><i>Bagh-e Akbariye</i></b>	2326

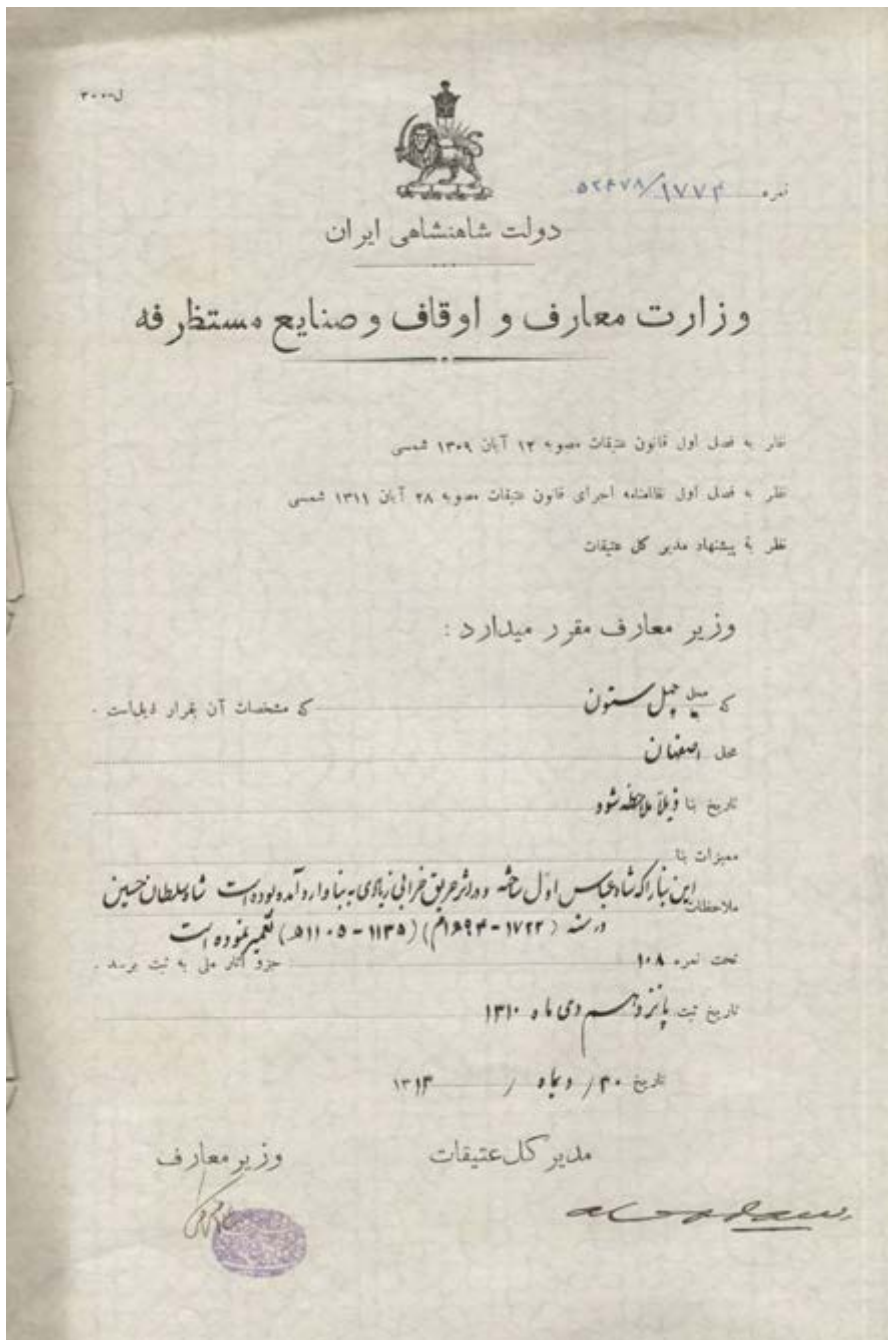
Province	City	Bagh name	National Registration number	Year
Fars	Shiraz	Ancient Garden of Pasargadae	19	1931



Province	City	Bagh name	National Registration number	year
Fars	Shiraz	Bagh-e Eram	1013	1974



Province	City	Bagh name	National Registration number	year
Isfahan	Isfahan	Bagh-e Chehelsoton	108	1932



Province	City	Bagh name	National Registration number	Year
Isfahan	Kashan	Bagh-e Fin	238	1935


 شماره ثبت ۲۳۸  
 وزارت فرهنگ و هنر  
 اداره کل حفاظت آثار باستانی و بناهای تاریخی ایران  
 پیشنهاد ثبت آثار باستانی

پیشنهاد کننده \_\_\_\_\_

محل نامۀ شماره \_\_\_\_\_

نام اثر باستانی باغ-فین \_\_\_\_\_

موقعیت جغرافیایی کاشان-فین \_\_\_\_\_

وضع فعلی \_\_\_\_\_

قدمت صفره \_\_\_\_\_

تاریخ بررسی و کشف \_\_\_\_\_

نام بانی و سازنده اثر \_\_\_\_\_

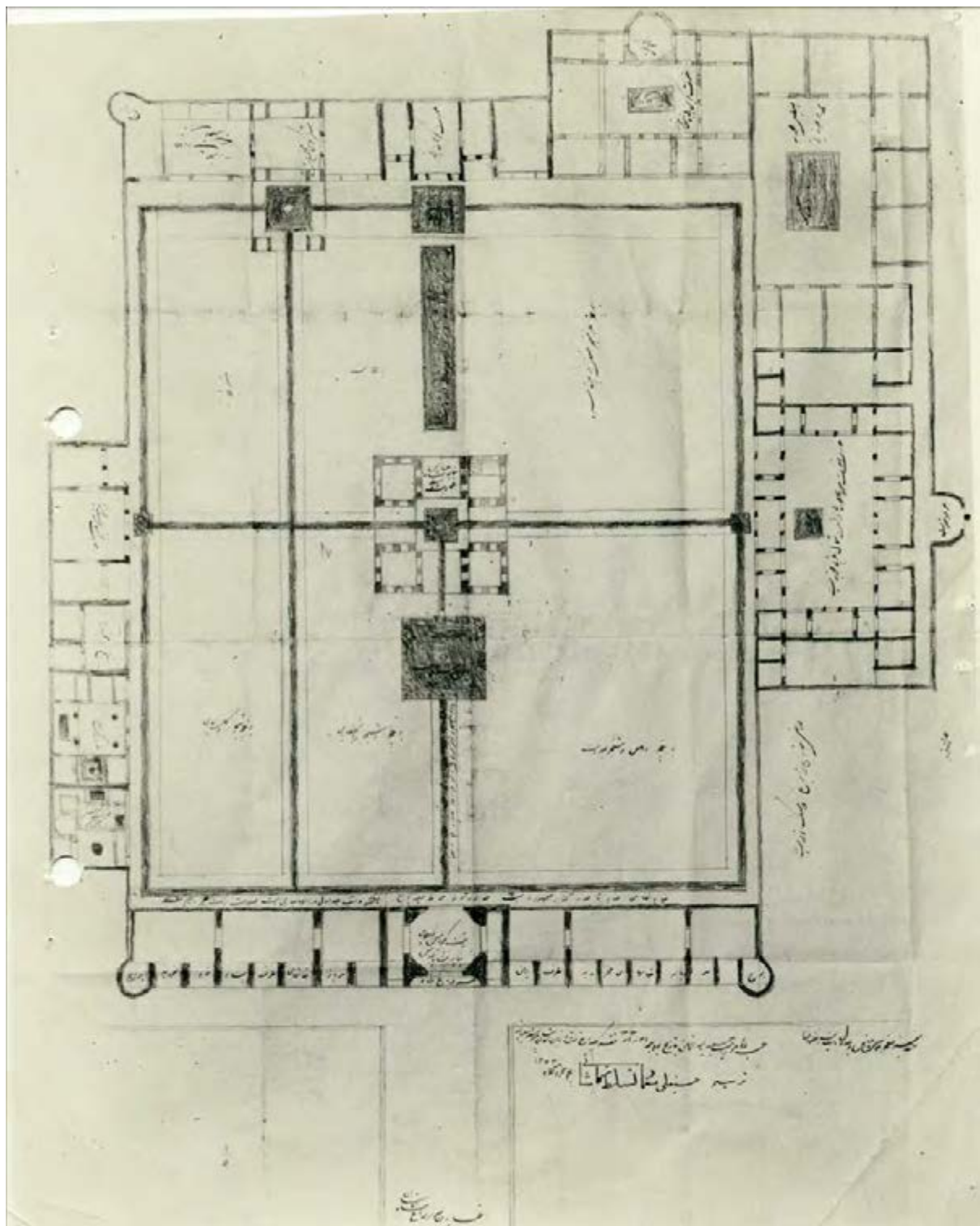
وضع مالکیت \_\_\_\_\_

ملاحظات \_\_\_\_\_


کاشان  
 فهرست آثار ملی غیر منقول  
 مشخصات بنا باغ فین  
 محل کاشان  
 تاریخ بنا و دوره صفویه  
 تاریخ ثبت ۱۵ آذر ۱۳۱۴ (۶ و ۷ سپتامبر ۱۹۳۵)  
 مهران بنا  
 ملاحظات

شماره بنا ۲۳۸

شماره ورقه ۱



*Kashan*




N° du monument *278*  
Fiche N° *1*

**INVENTAIRE des MONUMENTS HISTORIQUES IMMOBILIERS**

Désignation du Monument *Dayh-i' Fine*  
 Localisation *Kashan*  
 Datation *Epoque Saffavide*  
 Date du classement *15 Aout 1994 (6 Decembre 1994)*  
 Situation administrative  
 Remarques

KASHAN



No du monument *278*  
Fiche No. *2*

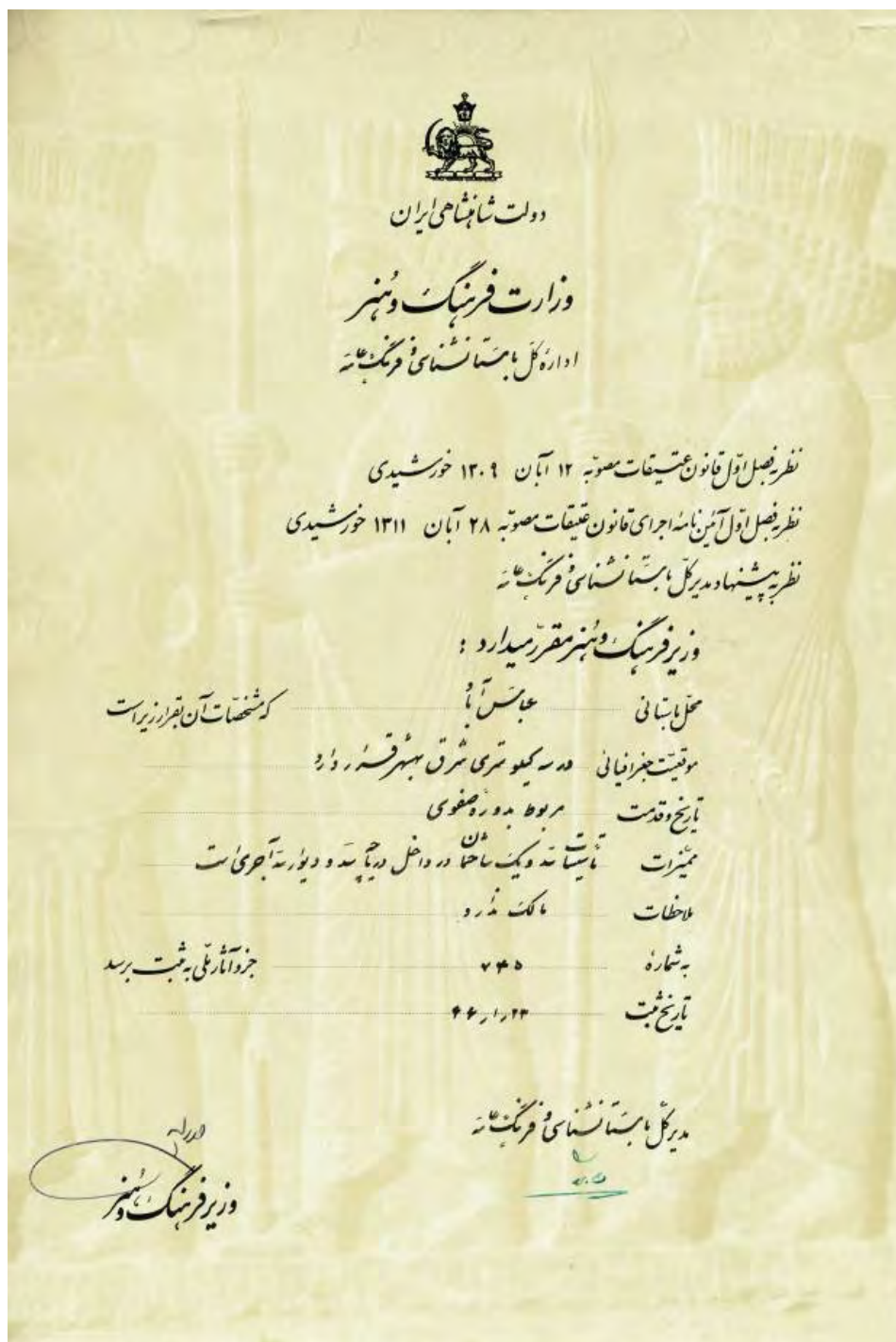
**INVENTAIRE des MONUMENTS HISTORIQUES IMMOBILIERS**

BIBLIOGRAPHIE

- Coste. Monuments modernes de la Perse. p. 37-8.
- Houtum-Schindler. Eastern Persia 1904 p. 113.
- Co le Trange. The Land.... p. 209.
- Chardin. Voyage.... Ed. Langlet | T. III. p. 7  
T II. p. 462.
- J. Dieulafoy. La Perse, le Mazdeisme et le Zoroastrisme p. 110.
- E. Flaudin. Relation de voyage en Perse. T. I p. 271
- Ch. de Brosses. Trois ans en Asie T. I p. 264-278.
- E. Flaudin et P. Coste Voyage en Perse. Perse moderne  
p. XXXVII.



Province	City	Bagh name	National Registration number	Year
Mazandaran	Behshahr	Bagh-e Abas Abad	745	1967



Province	City	Bagh name	National Registration number	Year
Kerman	Mahan	Bagh-e Shahzadeh	1012	1975

(Ψ)

ریاست جمهوری  
سازمان میراث فرهنگی و گردشگری  
« باسره تعالی »

در اجرای ماده ۱ از قانون تشکیل سازمان میراث فرهنگی و گردشگری و نظریه بند (ج) از ماده واحده قانون تشکیل سازمان میراث فرهنگی کشور، مصوب ۱۰ بهمن ۱۳۶۲ شمسی و بند ششم از ماده سوم قانون اساسنامه سازمان میراث فرهنگی کشور، مصوب ۲۸ تیر ۱۳۶۷ شمسی و فصل اول راجع به حفظ آثار ملی مصوب ۱۲ آبان ۱۳۰۹ شمسی و نظام نامه اجرایی آن و بنا به پیشنهاد مدیرکل دفتر ثبت میراث فرهنگی و طبیعی :

اثر فرهنگی، تاریخی « باغ و عمارت شاهزاده مامان » که مشخصات آن به قرار زیر است :

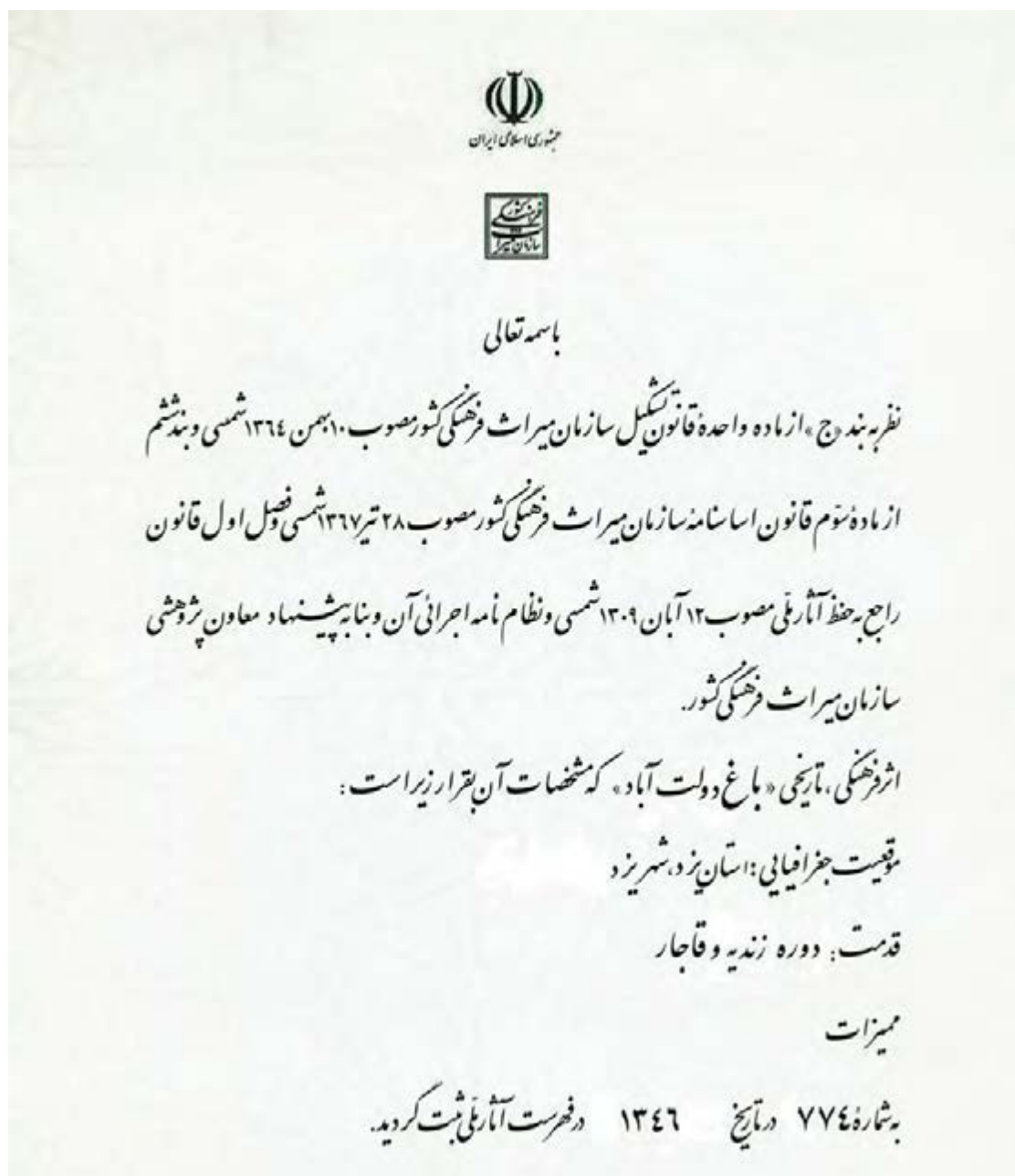
موقعیت جغرافیایی : استان کرمان - ۶ کیلومتر مان  
قدمت : قاجاریه

به شماره ۱۰۱۲ در تاریخ ۱۳۵۳/۰۸/۱۴ در فهرست آثار ملی ثبت گردید. برگ

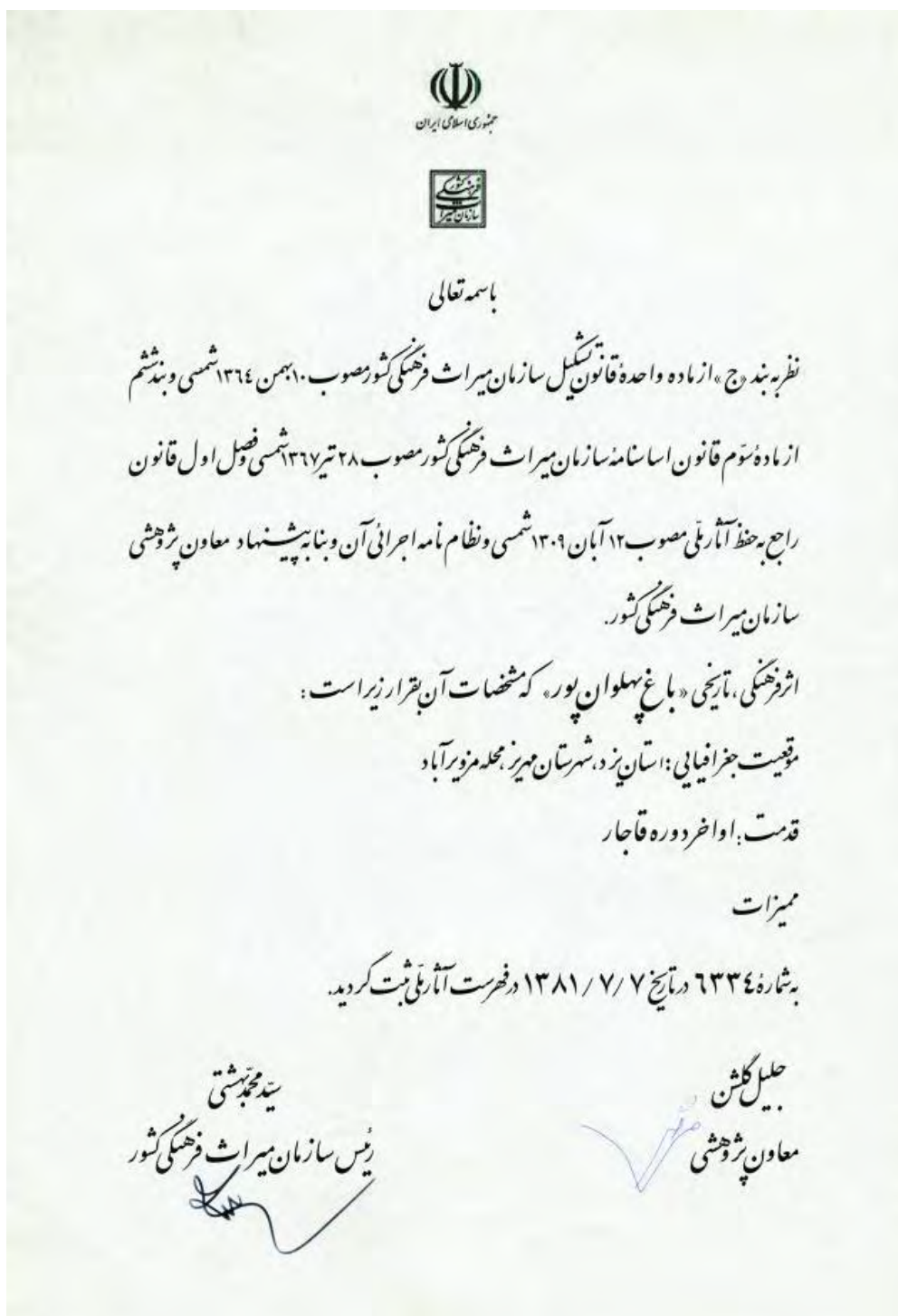
سیف ا... امینیان  
معاون حفظ و احیاء آثار تاریخی

حلیل گلشن  
سرپرست دفتر ثبت آثار تاریخی، فرهنگی و طبیعی

Province	City	Bagh name	National Registration number	Year
Yazd	Yazd	Bagh-e Dolat Abad	774	1967



Province	City	Bagh name	National Registration number	Year
Yazd	Mehriz	Bagh-e Pahlavanpur	6334	2003



Province	City	Bagh name	National Registration number	year
Southern Khorasan	Birjand	Bagh-e Akbariye	2326	1999



**SURVEY AND SOUNDINGS IN PASARGADAE AREA  
A REPORT OF THE JOINT IRANIAN-FRENCH  
ARCHAEOLOGICAL MISSION  
IN MARS 2008/ESFAND 1386**

*Directed by:*

**Rémy Boucharlat**

**Kourosh Mohammadkhani**



A brief report for the Iranian Center for Archaeological Research and the Parsa-Pasargad Research Foundation

**SURVEY AND SOUNDINGS IN PASARGADAE AREA**

**A REPORT OF THE JOINT IRANIAN-FRENCH ARCHAEOLOGICAL MISSION**

**IN MARS 2008/ESFAND 1386**

A brief technical report for the Iranian Center for Archaeological Research and the Parsa-Pasargad Research Foundation

Rémy Boucharlat

Kourosh Mohammadkhani

With

Tijs De Schacht,

Sébastien Gondet,

Yves Ubelmann

With the kind authorization of Dr. Taha Hashemi, the Director of the Research Department of ICHHTO, and Dr. Hasan Fazeli Nashli, the Director of ICAR, , the joint mission was able to conduct a short season at Pasargadae in March 2008 instead of September 2007 as it was previously planned. This 6<sup>th</sup> season since 1999 is supposed to be the last one concerning the site of Pasargadae.

Two operations have been carried out in the period from March 1st through March 19th. 1/ Survey at Pasargadae: to follow up the geomagnetic survey in Pasargadae, mainly for filling the gaps between the main covered areas within the protected site and also for extending the covered area behind the Tall-i Takht within the mudbrick enclosure.

2/ Special salvage operation: to clean and to study a stone canal which is located on the top of a long earth and stone weir called Didegan 1 / Shahidabad weir, in Safashahr plain, 35km north of Pasargadae. The continuous destruction of the remains in the past few years urged an archaeological study.

The authors wish to warmly thank the authorities of ICHHTO for permitting these operations and to acknowledge the efficient support of the Parsa Pasargad Research foundation, the kind support of its director Dr. M.H. Talebian and the staff of the Pasargadae group, where Mr. Abbasimehr made everything smooth and pleasant. The team enjoyed these days of friendly atmosphere, as it was in the past seasons.

The team consisted of

- Tijs De Schacht, archaeologist, in charge of the Band-i Didegan operation
- Sébastien Gondet, archaeologist and geophysicist, in charge of the geomagnetic survey at Pasargadae
- Bamshad Yagh-i Mai, MA in GIS, assistant at Didegan
- Mohammad Parizi, BA student in archaeology, assistant at Didegan
- Keyvan Gharghé, MA student in archaeology, assistant at Didegan
- Yves Ubelmann, architect, in charge of the study of the stone canal at Didegan

### **Geomagnetic survey in Pasargadae**

The general aim of the mission since its inception has been to consider the site of Pasargadae as a whole when dealing with some basic questions concerning the Achaemenid occupation. Despite the previous excavations, the visible ancient remains, clustered into four groups, are loosely distributed over some 300 hectares. Pasargadae seems to be rather poor in comparison

with Persepolis. Hence the idea of an “empty city” mainly consisting of camp of tents came out in several studies.

Our hypothesis was as follows:

The city planning might be different from the usual Ancient Near Eastern model and at the same time different from the partially known other Achaemenid residences of Persepolis and Susa.

Considering the existence of a carefully planned garden near the palaces, which may be an evocation of the taste of the kings for the gardens, we raised the question of a larger park corresponding to the Persian “paradise”.

Notwithstanding these possible “empty area”, a settlement might have existed for permanently, accommodating the builders of the city and later would have lodged the population of the town which lived there after Cyrus’ time.

Such a town, especially with sojourns of the king, its court and servants, needed to improve the resources of the region; therefore the Morghab plain and beyond should have seen a transformation for exploiting natural resources such as quarries, controlling the flow from the streams, and providing fresh water, producing food, and building roads.

Given the size of the site and our questions, the investigations should be on a large scale, therefore implementing varied methods of surface reconnaissance without excavations. Apart from the classic archaeological reconnaissance on the site and in its surroundings (including Tang-i Bulahi), the programme also included aerial photograph at low altitude, topography and microtopography study and mainly geophysical reconnaissance (geomagnetic and at a lesser degree electrical method in some special occasions).

This year the fieldwork only concerned the magnetic survey. The entire surface area surveyed this year reaches 8ha. Given the previous results, we concentrate in four places:

- Across the river, along which we have already evidenced a stone built embankment, and in the area between it and the Gate R (see Fig.1)
- South and southeast of the Zendan-i Solaiman, aiming to see whether there are some other structures linked with it in this direction and to cover the apparently empty area between this compound of buildings and the garden area. (see Fig.1)
- East and southeast of Palace S to cover the immediate area near this building and to complete the covering towards Cyrus tomb. (see Fig.1)



- Beyond the Tall-I Takht, within the mudbrick wall which protect some 20 hectares.

(see Fig.2)

From the start this year, we encountered some technical problems with the geophysical device. One of the two sensors broke down and we were forced to work with only one, up until we received a new replacement sensor from France. It means that we can observe on the geophysical maps some difference in resolution in comparison with the previous survey results. Despite these problems and a relatively weak loss of detail as to the resolution of the magnetic anomalies, the maps we were able to produce this season show very important features. These will for a part rebuild the present comprehension and image of the site's organization. Due to the technical problems, we will need to apply important digital post processing in order to offer a better view of the archaeological features. Otherwise results of some areas are already clear enough to advance some preliminary interpretations, particularly concerning the old river course and its vicinity along the southeastern limits of the enclosed site, as well as for the plan of the gardens, to the south-west of the Zendan-i Suleiman.

Concerning the old river, we up until this year supposed that its course ran from the north and that its embankments were built on the stretches where the river's course reaches the garden area of the capital. However, results obtained this year allow to assume that at the extremities of the two stone-built embankments, to the south-west, as well as the north-east, two different structures seal off the river course (red rounded dotted line on the figure 3). For the moment however, it's impossible to give a wider interpretation concerning the nature of these two structures. But it could show that what we consider as an embanked river, actually consisted rather of a large basin, that at its two extremities was closed off, this reconstruction is also strengthened by the fact that the river does not seem to continue further to the south-west.

To the southwestern limit of this area, the perpendicular structure across seems to run further to the north. Is it possible to consider this feature as a discharge structure of the water?

Somewhat less clear, this structure also seems to show continuity in the field in southeastern direction (continuous parallel red line on the figure 3), and in that way (and for now), it renders the feature quite enigmatic.

Regarding these preliminary interpretations, we could in the future maybe reconsider the entire interpretation concerning the function, supply and course of this embanked structure.

Along the south embankment, we had already observed a possible built area in areas surveyed in earlier seasons. The new maps confirm these and clearly show particularly large rectangular features, linked with smaller ones (green line on the figure 3). The entire area shows an enhanced magnetic signal (green transparent circle), which could correspond to an ancient activity area. In addition, these results can also be linked to the direct observation of small ceramic fragments, as well as stone concentrations on the surface.

We will focus now on the newly surveyed area, southwest of the Zendan-i Suleiman. First of all, as a consequence of the previous surveys, we were able to underline some linear anomalies southwest of the tower. These delimit some large rectangular areas, that could relate to an ancient extension of the garden, outside the limits drawn by the stone canals.

Despite the very bad resolution of the maps for this area, we can assume that these linear anomalies continue (green transparent circle on the figure 4). After a hard work of postprocessing, we will maybe be able to redraw the entire organisation plan of this area.

The most visible result in this area concerns the central stone canal system and its related structures. From the northeastern corner of the outer stone canal system, we clearly observe some anomalies running to the southwest (red dotted line on the figure 4). These features seem to form a sort of rectangular area in their southeastern extremity. Since this secondary system is linked to the main stone canal network, we could consider that these anomalies serve for the water management. But considering the orientation of these lines, lightly shifted in comparison with the main orientations of the garden, it could also be witness of a more recent re-use of the canal system: In fact, this newly detected system could also be linked to the quite recent canal which pass 70m to the south of the Zendan-i Suleiman and cause very high anomalies.

As to the other areas, the maps need further post-processing in order to allow for an accurate interpretation, since as for the moment, only sparse anomalies have been detected.

### **Rescue operation at Band-i Didegan/Shahidabad**

#### **Cleaning, soundings and architectural study**

Everybody working in Iran nowadays is aware of the priority ICHHTO gives to the rescue

excavations, particularly for those linked to projects of modern day dam construction. There is a peculiar case however, linked to a dam, but here an ancient dam, which is seriously endangered by the activities of modern day plunderers.

At the occasion of the field research of the joint mission at Pasargadae and Persepolis, we had the opportunity to visit three times (in 2004 and 2005) a dam 3 km SE of Shahidabad, about 35km North of Pasargadae, called 'Damm 1' in W. Kleiss' article (AMI 1991 : 24-25).

Located at 8km at NNO of the place so-called Didgan by Kleiss (see Fig. 5), the dam across the Pulvar River at some 500m before the canyon. It extends over 600m on the right bank reaching 10 to 15m in height. It is made of a levee of earth. Its two faces were strengthened by unworked stones.

The most important structure which was apparently not visible when W. Kleiss visited it –and this is an important point- is an very impressive stone built canal at the top of the dam and across it. It apparently extends over 11m long and more than 2m in height. It was probably recovered by earth until recent years. Today, it is regularly plundered and destroyed by hands (and dynamite) and even engines. Our visits in December, May 2005 and November 2005 show definitively that the destruction is a current process which has been confirmed by local people and by one of the guards of Pasargadae site. We have observed the fall of some stone blocks (especially the last stone of the ceiling of the front part (upstream side) looking down the upstream, the extension and the deepening of the pits onto the canal and along it, the breaking of the carefully cut blocks on the middle and rear parts. One can generally observe a very sad evolution between 2004 and 2005.

The authorities concerned with heritage, both at Teheran and at Persepolis, have perfectly realised the importance of an urgent operation on this dam as it is rapidly being destroyed year after year. With their full support, we have included a rescue operation along with the fieldwork at Pasargadae. This operation was limited in time, some 17 days, which were enough to confirm the importance of the site for the Heritage as well as for the history of Pasargadae region in the Achaemenid period.

Given the restricted duration of the operation, we did not plan to actually fully excavate the stone canal. Rather we approached the structure in an emergency-excavation fashion, whereby pillage pits and the bulldozer trench were carefully examined and turned into regular excavation trenches with clean sections. In addition, some smaller soundings were laid out in

the distal part behind the visibly attestable canal. These, together with a small but enlightening geophysical survey, were to provide the presumable southern limit to the main canal and they were also to shed light on possible secondary branches of the hydrological system. Thirdly, we also intended to survey the environment of the canal and the weir. For the latter aim, we gratefully benefited from the knowledge of our colleagues of the Pasargadae office who have painfully surveyed the region with a real success. This part of the work is not yet completed and we foresee a short visit in April.

Operations within the 17 days of work included:

- As an addition to the overall topographic map, created on behalf of the PPRF, we performed a detailed micro topographical mapping of the direct surroundings of the canal site, in total a surface of some 5500 m<sup>2</sup>. This map serves as a base map for all documentation of surface material (architectural as well as archaeological) and it will also allow for a precise reconstruction of the original topography.

- Surface mapping of archaeological finds (predominantly pottery and brick frags).

Architectural mapping of all blocks that have been robbed, to allow for restitution later.

- Cleaning of the visible remains, rectification of pillage holes and rectification of section. All layers, original as well as intrusive (infill), were documented (described, mapped, sections drawn, finds retrieved) by the mission's archaeologist, while all architectural remains were fully mapped (in section, plan and detail) by the mission's architect.

- Geophysical survey by Sébastien Gondet to clarify the southern extent of the site.

- Smaller trenches to test these results and the possible existence of secondary canal traces.

All together these different operations do not only add to a detailed surface map (see Fig. 7), but as a whole, they reveal a functional and complex system of water management, that can – due the attestation of classic dove tail clamps – firmly be attributed to the period that stretches from the reign of Cyrus to that of Darius. The still to be processed ceramic finds and baked bricks (32 cm in width, 6 cm in height) possibly confirm this date (see Fig. 6).

Rather than describing each trench and the main deposits, we here would prefer to present a general (and for sure preliminary!) understanding of the structure's layout and its function (see Fig. 8 for a first 3D reconstruction).

Although the original topography is to be reviewed together with a geomorphologist (visit planned in april 2008), it's already clear from the visible waterlogged strata in the dike's

eroded faces, that a large lake would have existed to the west and north of the canal. To the east, the dike would have continued. At some 12 m above the present day level of the river, water was taken in by a feeding canal a (1,55 x 90 cm) that would have provided the system by a large volume of water that was then further subdivided into the 6 smaller feeding branches. This feeding canal has since been largely eroded and only two lines of blocks, together with the T-shaped distribution area, are still found in situ. Together with robbed blocks from other parts of the site, some of the main canal's eroded block can be distinguished in the present day river bed.

Behind the T-shaped canal, the six small canal branches (see Fig.9) from then on were covered by big ashlar blocks (joined by bitumen and dove tail clamps), and the area was originally covered by a compact deposit to protect the blocks. Some 7 m more to the south, large blocks (up to 3 m in size) hold back the infill and mark an open area in which each canal could be blocked with a sluice (see Fig. 10). Only 1 m more to the south, the canal was no longer covered and all canals presumably give to a wide reservoir, again built of large ashlar blocks. Of particular interest is the elevation and size of the smaller canals. These clearly become smaller and smaller, as if the rise of pressure was of utmost importance. Just behind the sluices, the water is pushed upwards. And it's in the reservoir water-related deposits and combed bricks, stone fragments and charcoal were found. It's still unclear if this represents a brick superstructure or a possibly secondary infill. These bricks are also found in the southern trenches were beds of (presumably reused) bricks and stone fragments are overlain by fine stream-sediments.

The importance of pressure in the overall system pushes us to a preliminary interpretation in which a mill would have existed at the location of the reservoir, and after which the water was channelled through the large discard channels to the south.



Fig. 1. Newly surveyed zones in the garden area.



Fig. 2. Newly surveyed zones beyond the Tall-e Takht

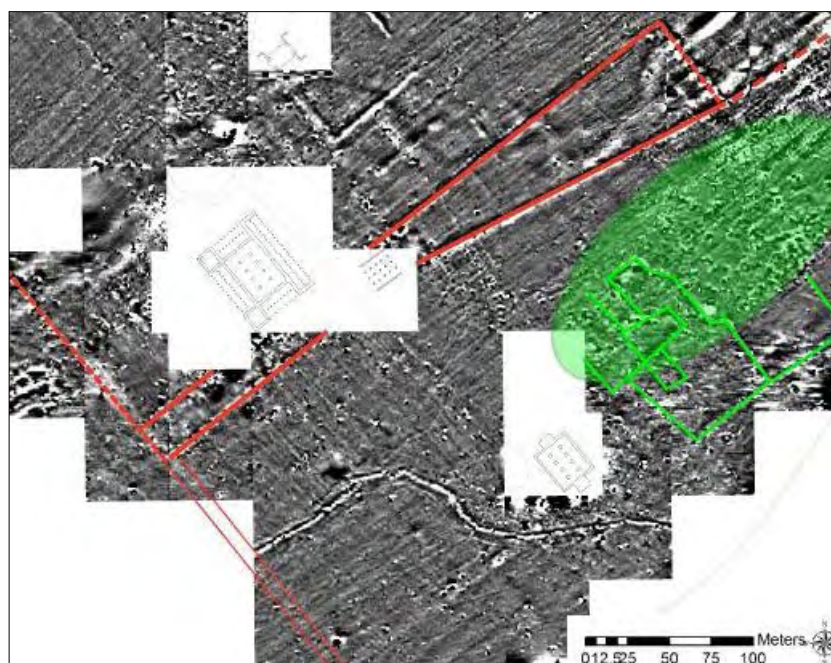


Fig.3. First interpretations of the results obtained on the southern part of Pasargadae gardens

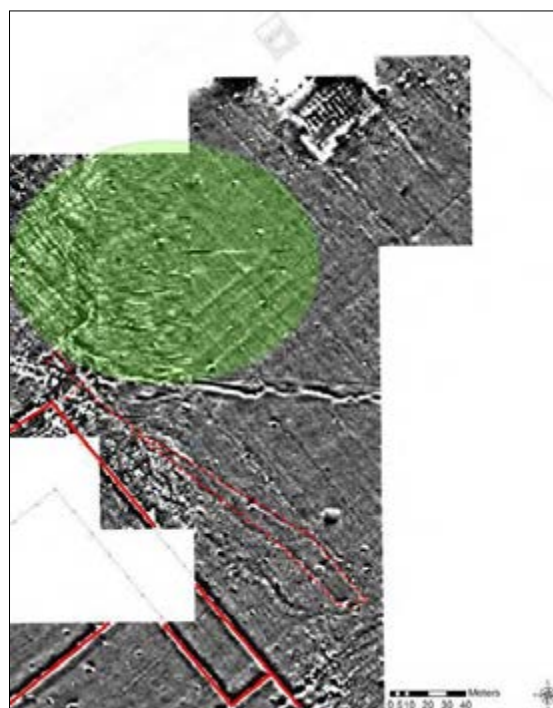


Fig.4. First interpretations of the results obtained on the northern part of Pasargadae gardens



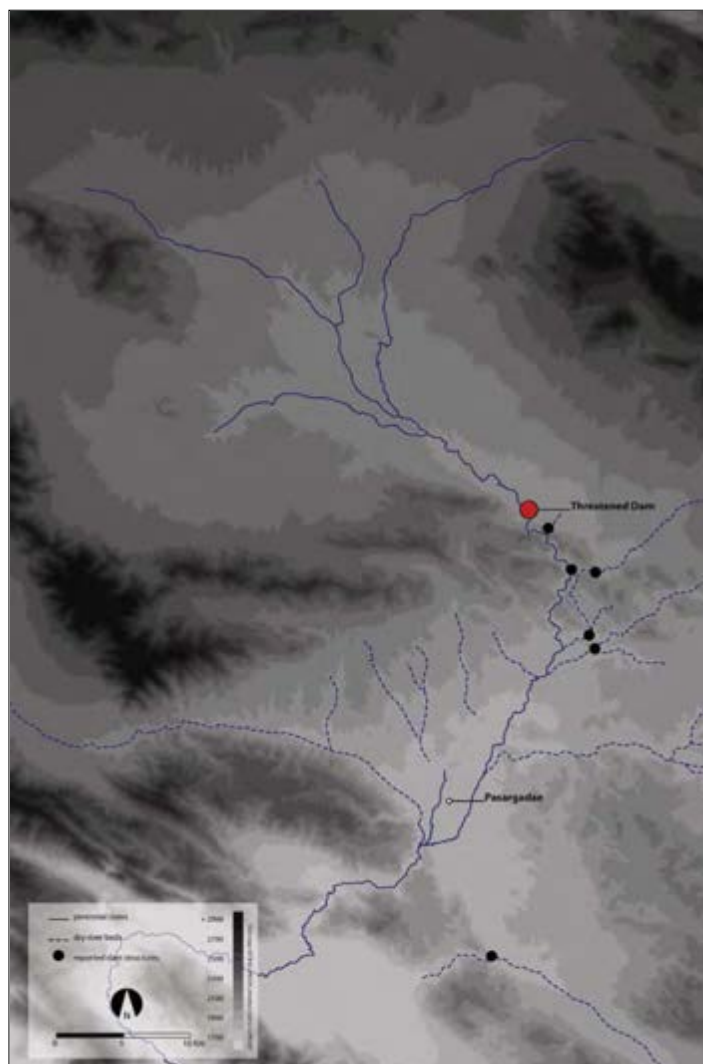


Fig. 5. Location map of the threatened dam at Didegan / Shahidabad



Fig. 6. Detail of a dovetail-clamp in situ

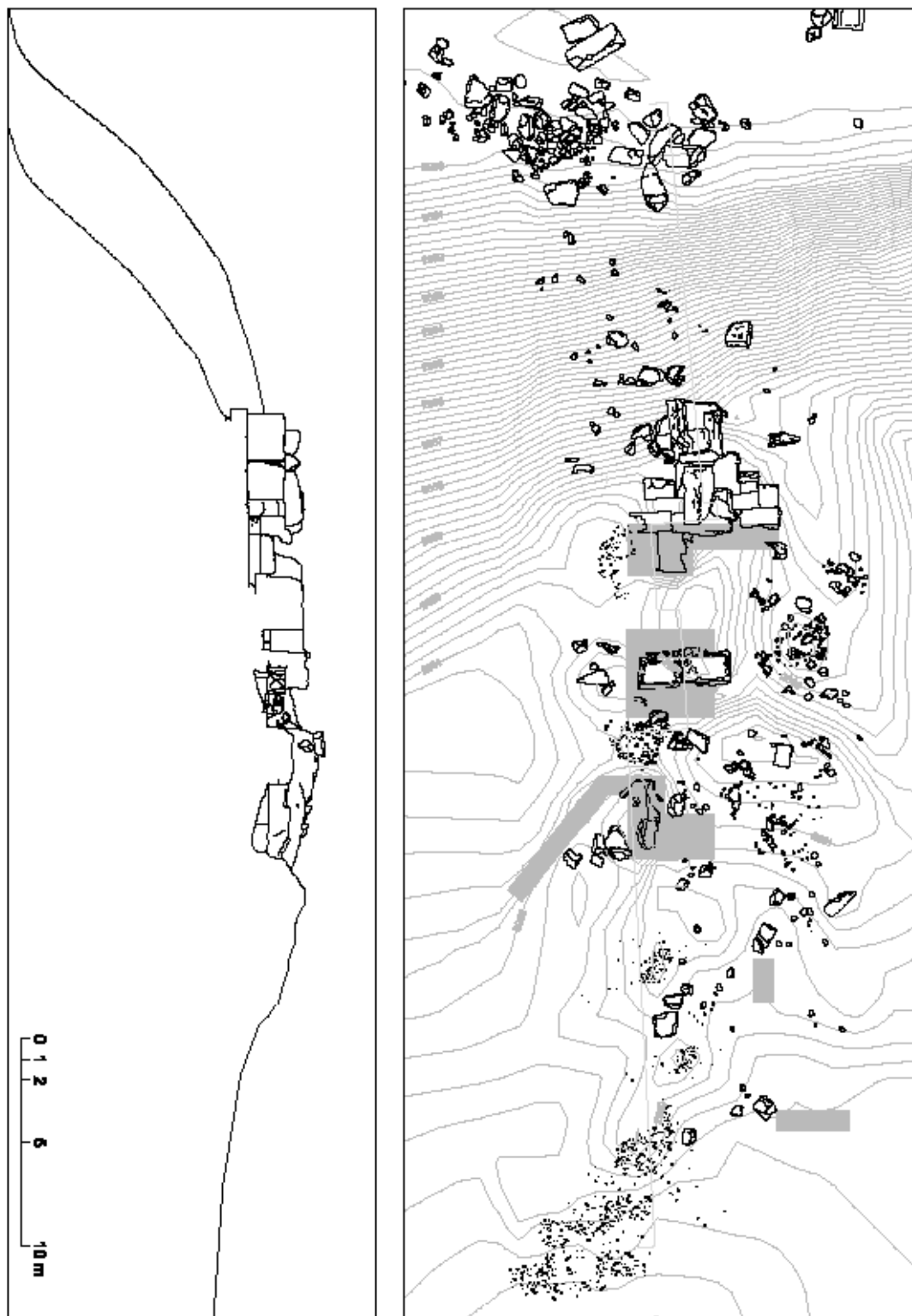


Fig. 7. Overall surface map with indicated in grey, the cleaned/rectified and new out trenches

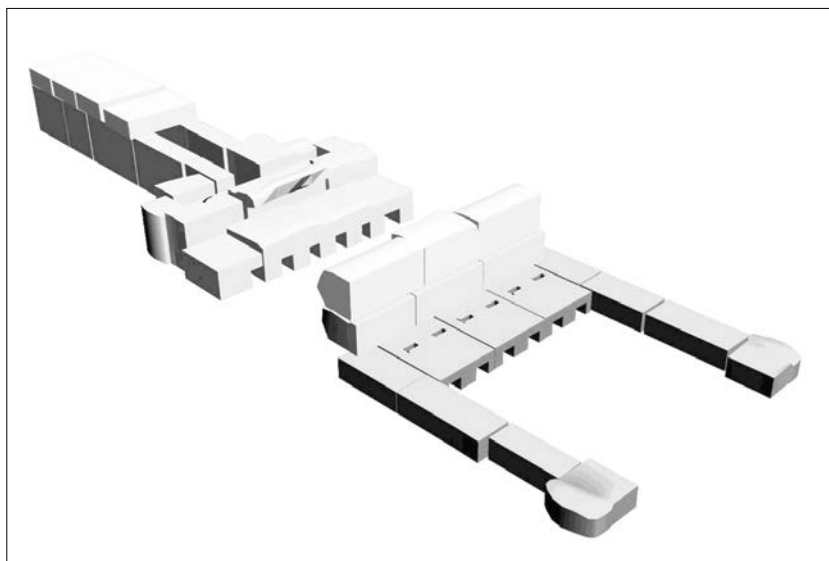


Fig. 8. First 3D-reconstruction of the possible layout of the main canal

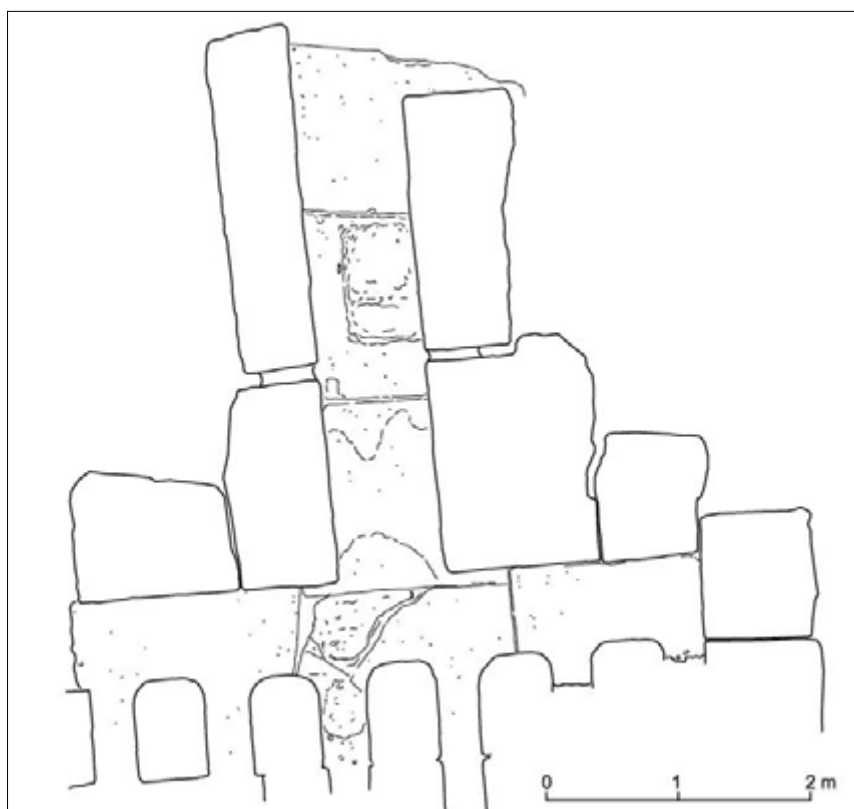


Fig. 9. Architectural map of the T-shaped water intake and distribution area



Fig. 10. Central area with the sluice infrastructure. View to the east.

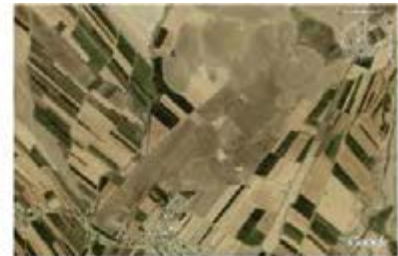
- *Ancient Garden of Pasaegadae*



Aerial Photo.jpg



Aerial Photo (1).jpg



Aerial Photo (2).jpg



Bridg.jpg



Cyrus the Great Tomb .JPG



Gate House or Place R.jpg



Palace P.jpg



Palace P (1).JPG



Palace s.JPG



Palace s (1).jpg



Pavilion A.jpg



Pavilion B.jpg



Royal Garden.jpg



Royal Garden (1).jpg



Royal Garden (2).jpg



Royal Garden (3).jpg



Tell-e Takht.jpg



Zendan-e Soleyman.jpg

- *Bagh-e Eram/ Shiraz:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (7).idm



General View (8).idm



General View (9).idm



General View (4).jpg



General View (5).jpg



General View (6).jpg



General View.jpg

- *Bagh-e Chehel Sotun/ Esfahan:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (4).jpg



General View (5).jpg



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General View (7).jpg



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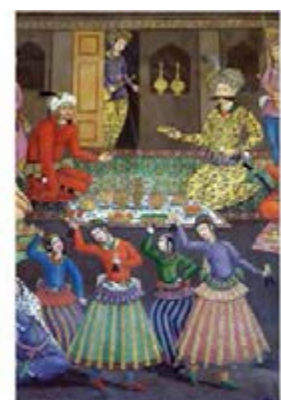
General View (10).JPG



General View (11).JPG



General View (12).JPG



Wall-painting, Chehel Sotun...



Wall-painting, Chehel Sotun...



Wall-painting, Chehel Sotun...



Wall-painting, Chehel Sotun...



Wall-painting, Chehel Sotun (5).jpg



Wall-painting, Chehel Sotun (6).jpg



Wall-painting, Chehel Sotun (7).jpg



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Wall-painting, Chehel Sotun (16).jpg



Wall-painting, Chehel Sotun (17).jpg



Wall-painting, Chehel Sotun (18).jpg



- *Bagh-e Fin/ Kashan:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (4).jpg



General View (5).jpg



General View (6).jpg



General View (8).jpg



General View (9).jpg



General View (7).jpg

- *Bagh-e Abas Abad/ Behshahr:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (4).jpg



General View (5).jpg



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General View (10).jpg



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General View (15).JPG



General View (16).JPG



General View (17).JPG



General View (18).JPG

- *Bagh-e Shahzadeh/ Kerman:*



General View (1).jpg



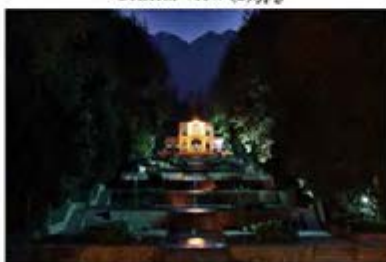
General View (2).jpg



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General View (4).jpg



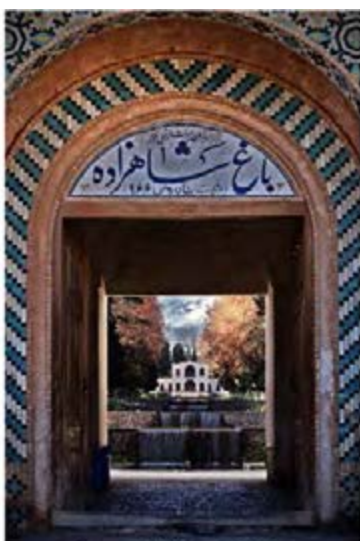
General View (5).jpg



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General View (9).jpg



General View (8).JPG

- *Bagh-e Dolat Abad/ Yazd:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (4).jpg



General View (5).jpg



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General View (7).jpg



General View (8).jpg



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General View (10).jpg



General View (11).jpg



General View (12).jpg



General View (13).jpg



General View (14).jpg



General View (15).jpg

- *Bagh-e Pahlavanpour/ Yazd:*



General View (1).jpg



General View (2).JPG



General View (3).jpg



General View (4).jpg



General View (5).jpg



General View (6).jpg



General View (7).jpg



General View (8).jpg



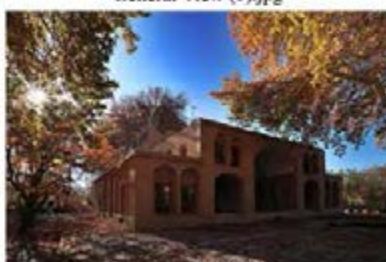
General View (9).jpg



General View (10).jpg



General View (11).jpg



General View (12).jpg

- *Bagh-e Akbariyeh/ Yazd:*



General View (1).jpg



General View (2).jpg



General View (3).jpg



General View (4).jpg



General View (5).jpg



General View (6).jpg



General View (7).jpg

- **Country (and State Party if different)**

Islamic Republic of Iran



Fig.1. Iran

- State, province, or region

Nomination dossier includes nominated sites from 6 provinces as follows:

Fars- Isfahan- Mazandaran- Kerman-Yazd and Southern Khorasan which are showed.



Fig. 2. Location of the provinces



• Name of Property

The Persian Garden



- International boundaries
- World Heritage Sites in Iran
- Nominated Gardens
- ★ National capital
- Province capital
- Railways
- Expressway
- Road

Fig.3. Location of the nominated Persian Gardens

• Geographical coordinates to the nearest second

No.	Name of the Nominated Gardens	Province/ City	Geographical Coordinates	Map ref.
1	<i>Ancient Garden of Pasargadae</i>	Fars/Shiraz	N: 30° 10' 0.0'' E: 53° 10' 0.0''	<b>A-I</b>
2	<i>Bagh-e Eram</i>	Fars/Shiraz	N: 29° 38' 10.03'' E: 52° 31' 31''	<b>A-II</b>
3	<i>Bagh-e Chehel Sotun</i>	Isfahan/Isfahan	N: 32° 39' 27'' E: 51° 40' 20''	<b>A-III</b>
4	<i>Bagh-e Fin</i>	Isfahan/ Kashan	N: 33° 22' 20.53'' E: 51° 22' 20.53''	<b>A-IV</b>
5	<i>Bagh-e Abas Abad</i>	Mazandaran/ Behshahr	N: 36° 39' 50'' E: 53° 35' 38''	<b>A-V</b>
6	<i>Bagh-e Shahzadeh</i>	Kerman/ Mahan	N: 30° 01' 30'' E: 57° 16' 59''	<b>A-VI</b>
7	<i>Bagh-e Dolat Abad</i>	Yazd/Yazd	N: 31° 54' 12.30'' E: 54° 21' 6.59''	<b>A-VII</b>
8	<i>Bagh-e Pahlavanpur</i>	Yazd/ Mehriz	N: 31° 33' 36.6'' E: 54° 26' 25.21''	<b>A-VIII</b>
9	<i>Bagh-e Akbariyeh</i>	Southern Khorasan/ Birjand	N: 32° 51' 10'' E: 59° 13' 40''	<b>A-IX</b>

• **Nominated Persian Gardens:**



Fig 4. *Ancient Garden of Pasargadae*



Fig .5. *Bagh-e Eram*



Fig .6. *Bagh-e Chehel Sotun*



Fig .7. *Bagh-e Fin*



Fig .8. *Bagh-e Abas Abad*



Fig .9. *Bagh-e Shahzadeh*



Fig .10. *Bagh-e Dolat Abad*



Fig .11. *Bagh-e Pahlavanpur*

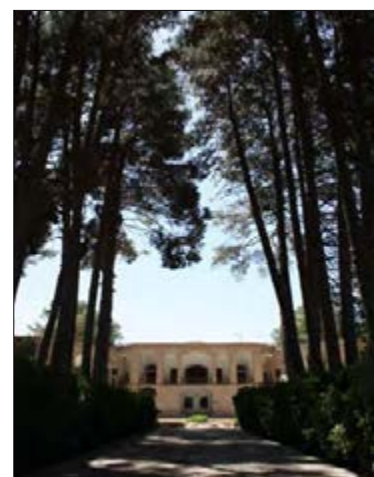


Fig .12. *Bagh-e Akbariyeh*

**A4 Size maps of nominated gardens boundaries\***

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\*See textual description of boundaries at the end of this report, P: 48

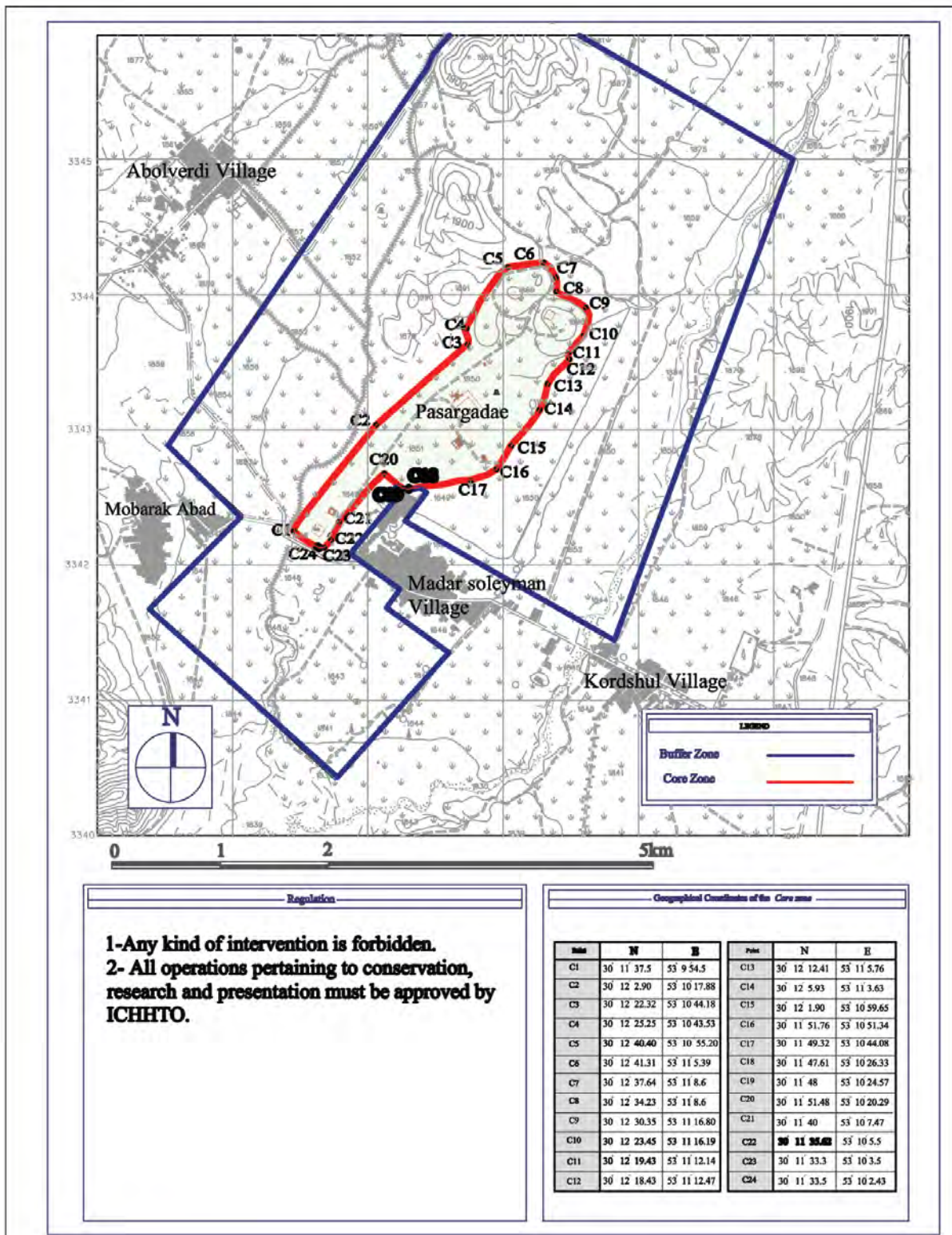


Fig. 13. Ancient Garden of Pasargadae Core Zone boundary

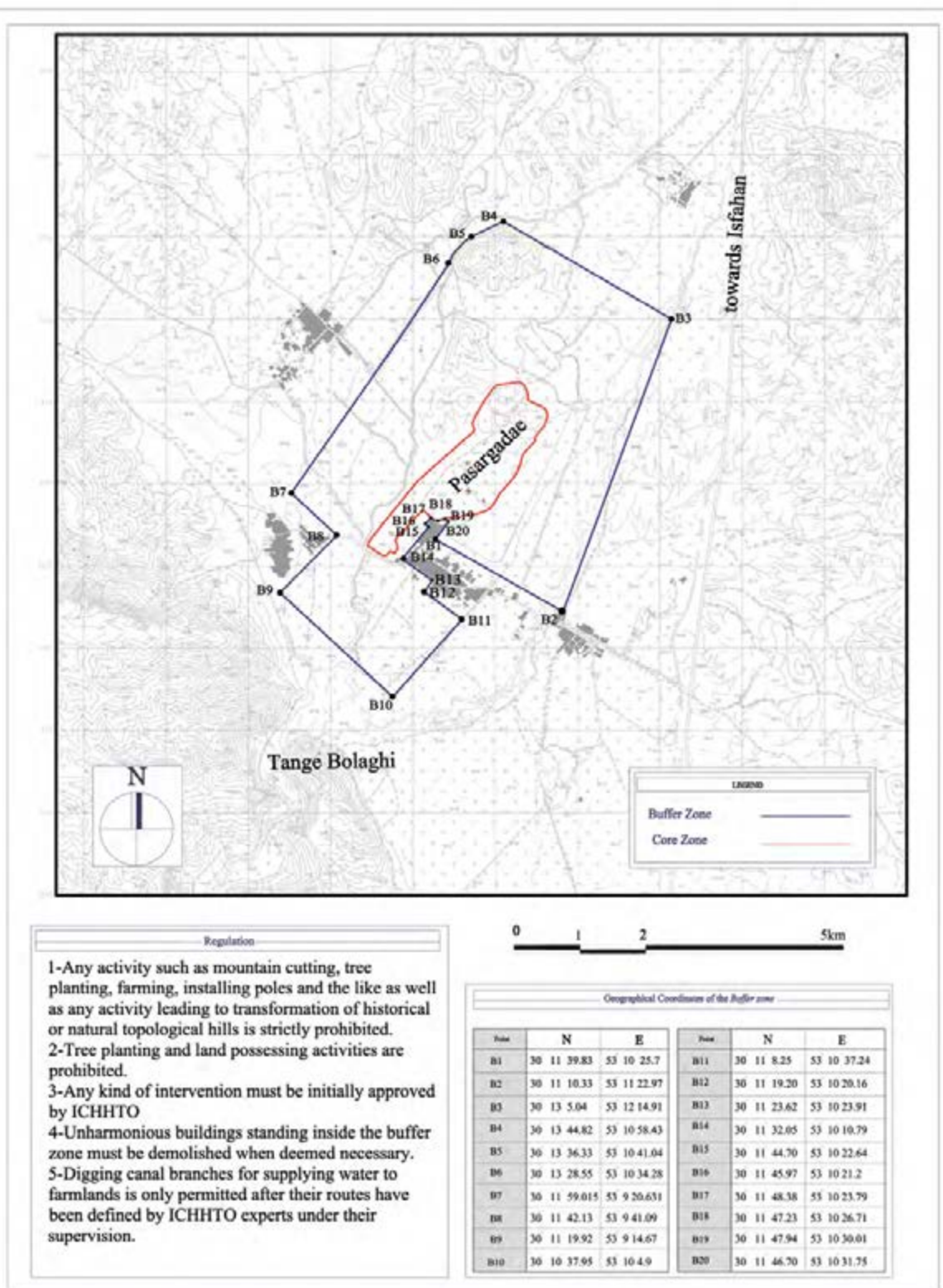


Fig. 14. Ancient Garden of Pasargadae Buffer Zone boundary

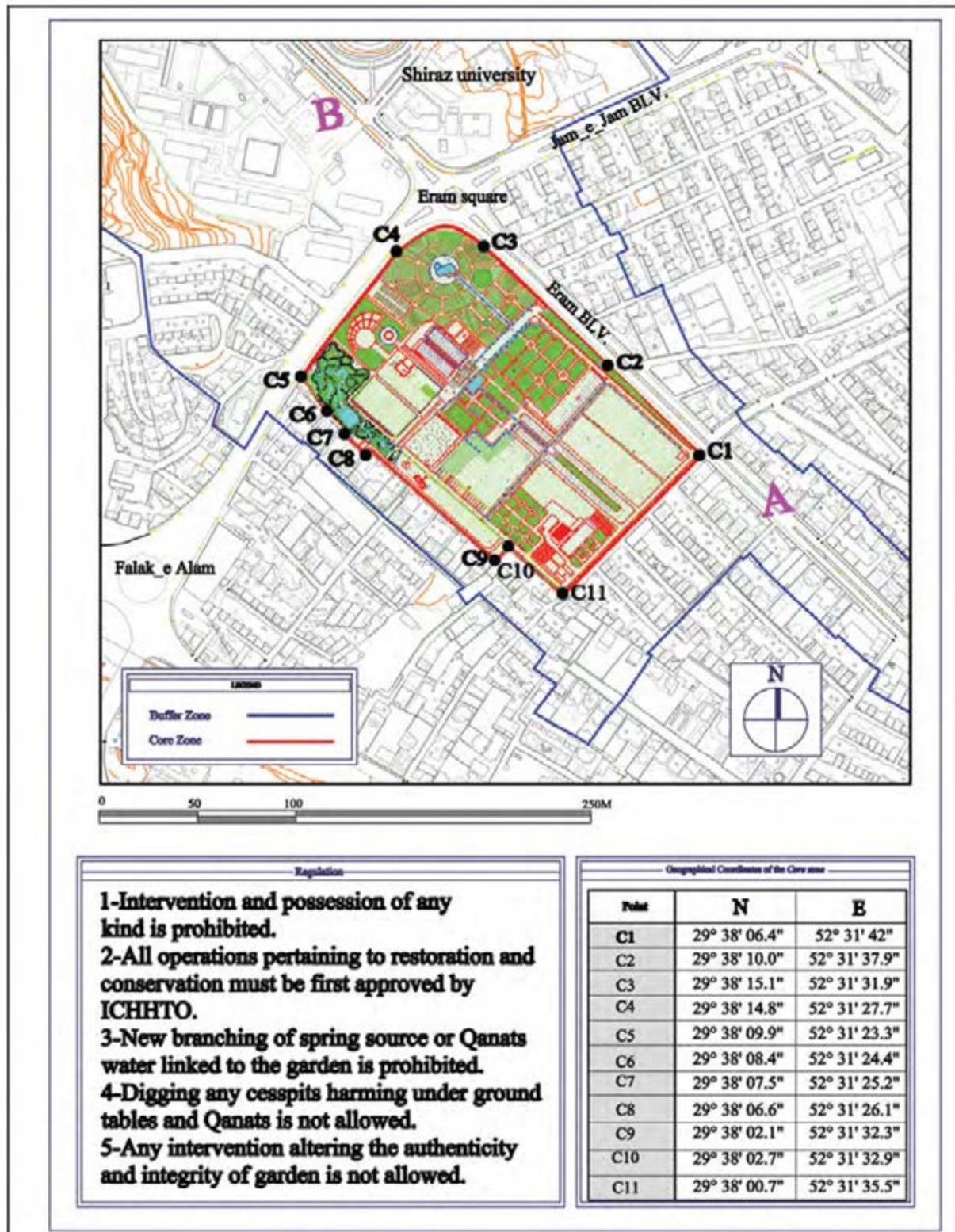


Fig. 15. Bagh-e Eram Core Zone boundary

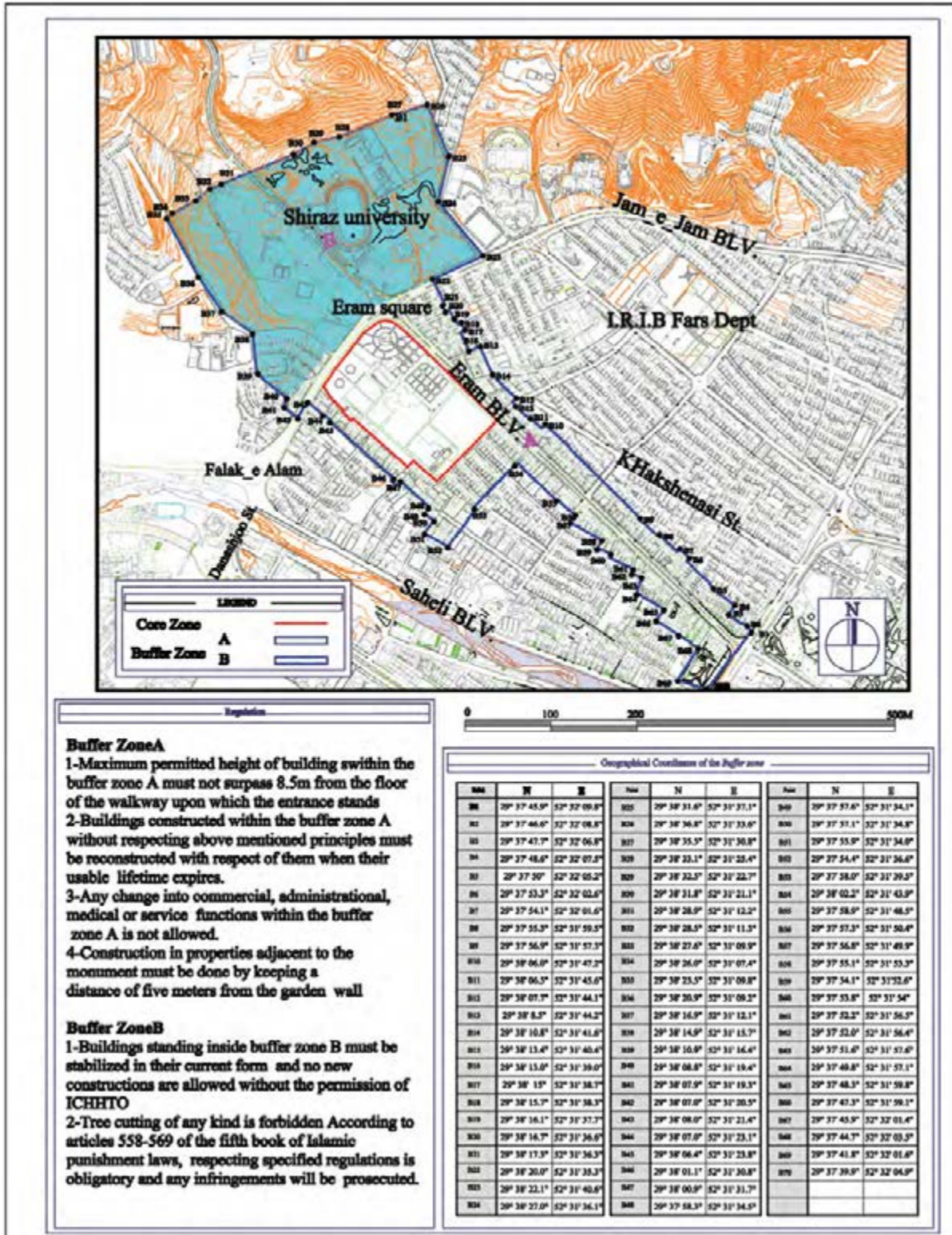


Fig. 16. Bagh-e Eram Buffer Zone boundary



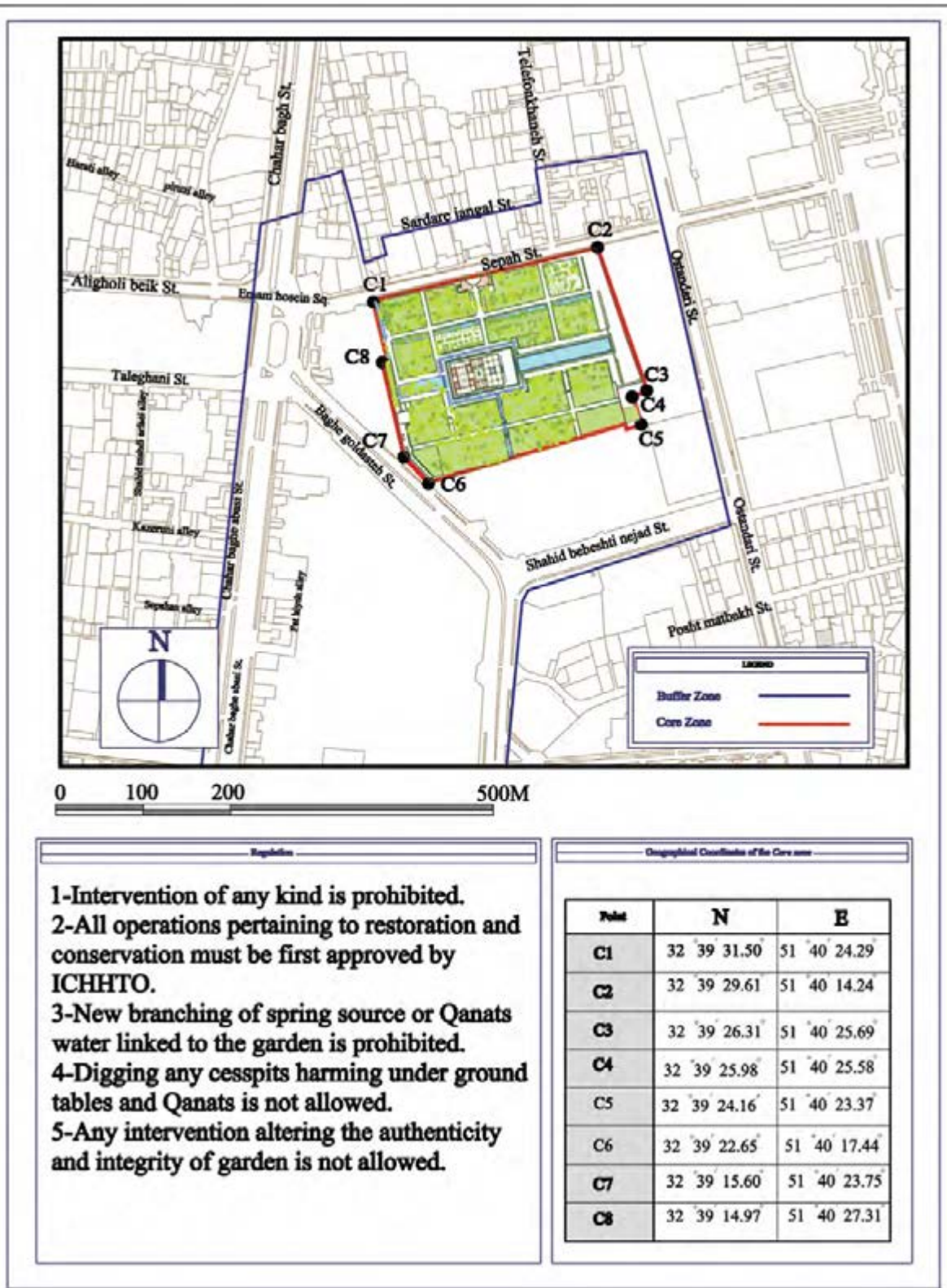


Fig. 17. Bagh-e Chehel Sotun Core Zone boundary

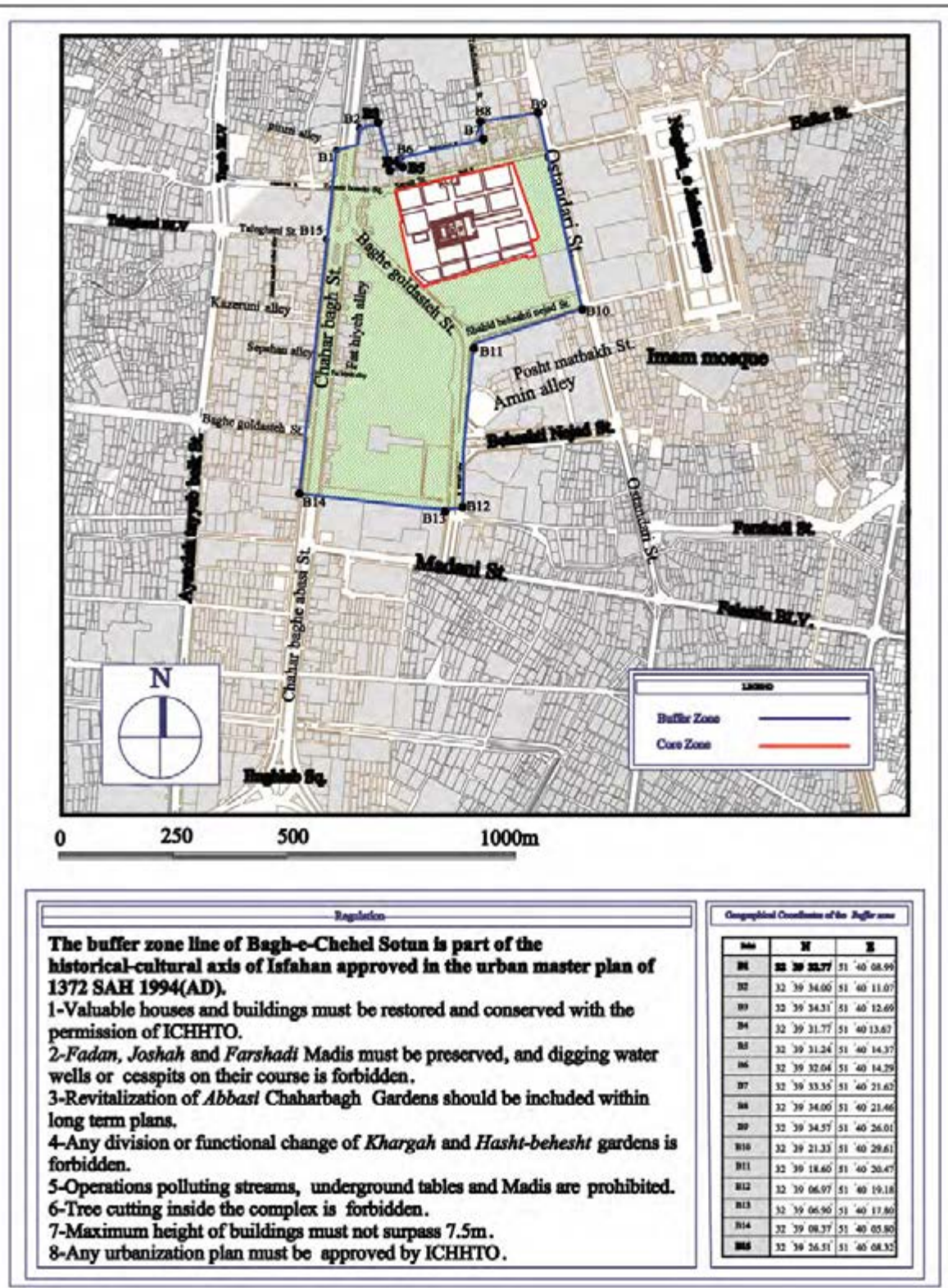


Fig. 18. Bagh-e Chehel Sotun Buffer Zone boundary

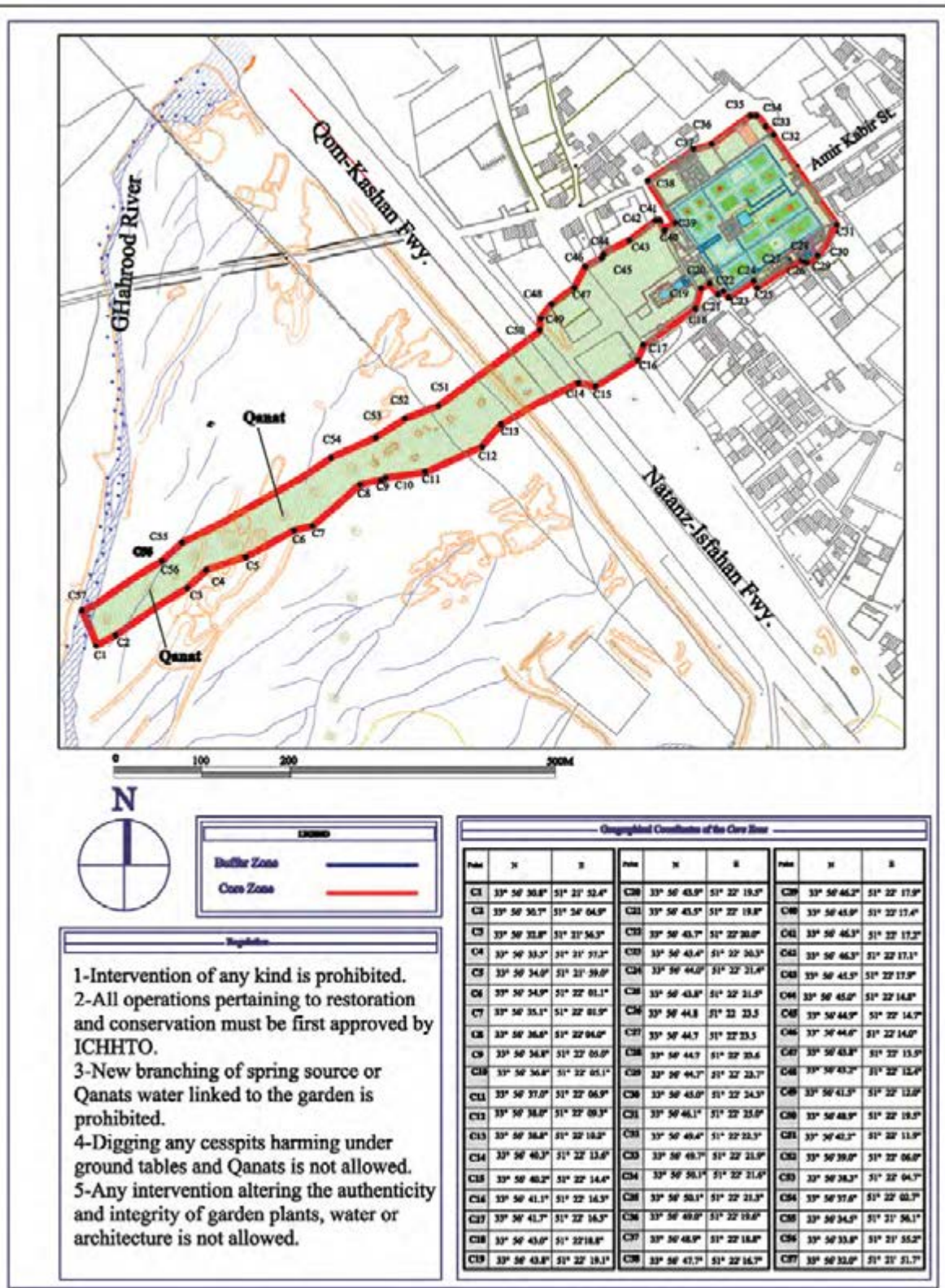


Fig. 19. Bagh-e Fin Core Zone boundary

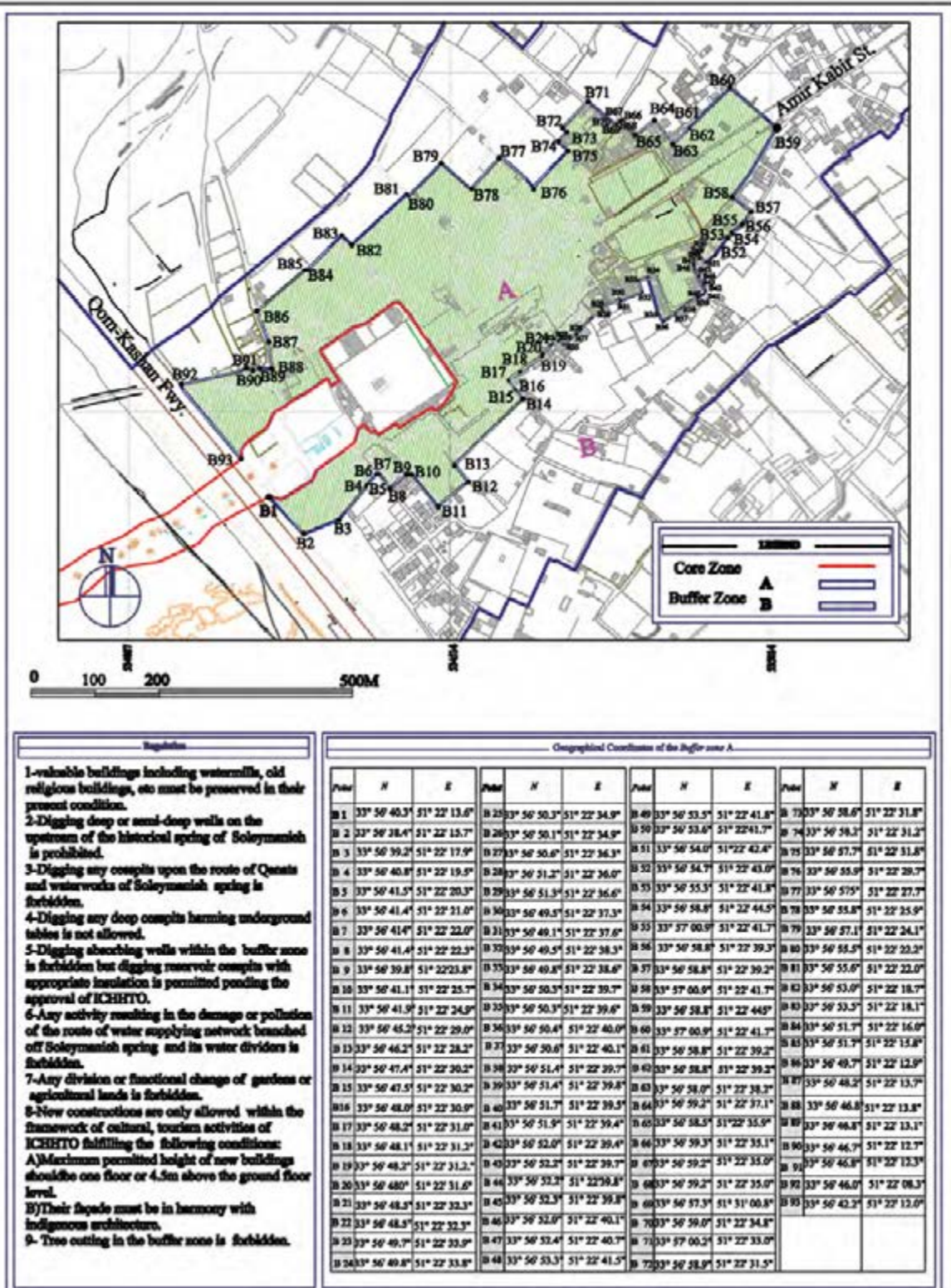


Fig. 20. Bagh-e Fin Buffer Zone boundary (Zone A)

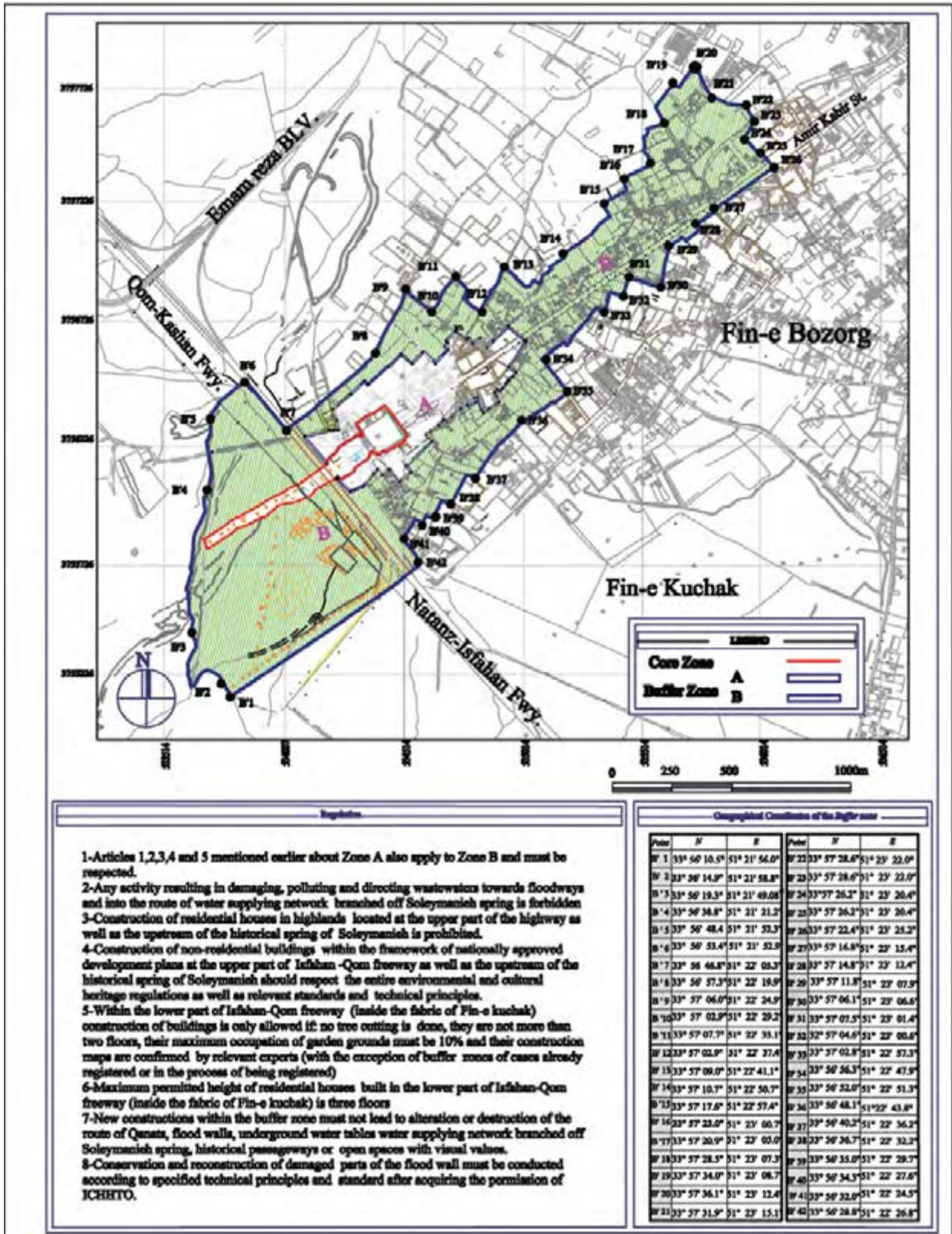


Fig. 21. Bagh-e Fin Buffer Zone boundary (Zone B)

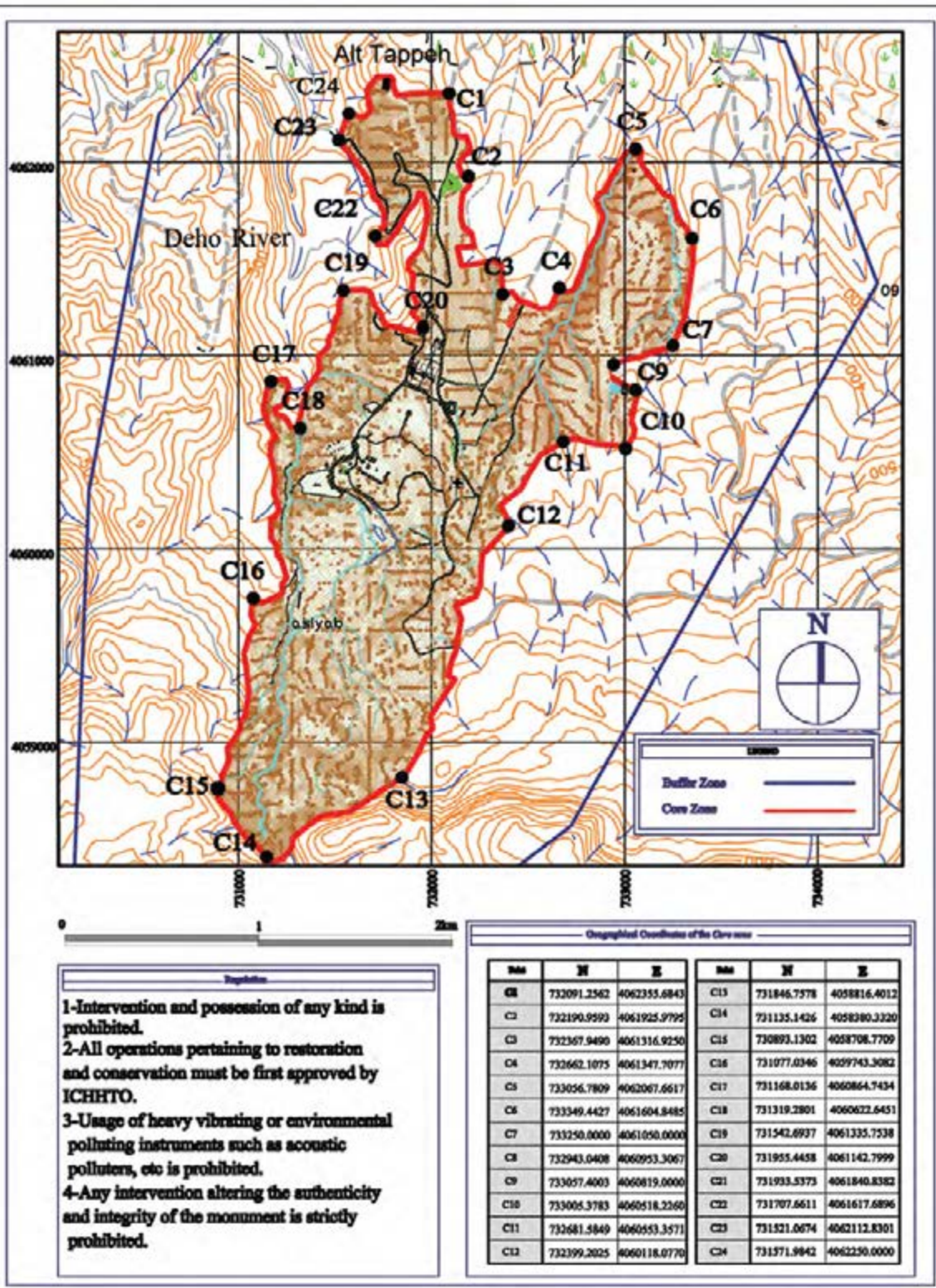


Fig. 22. Bagh-e Abas Abad Core Zone boundary

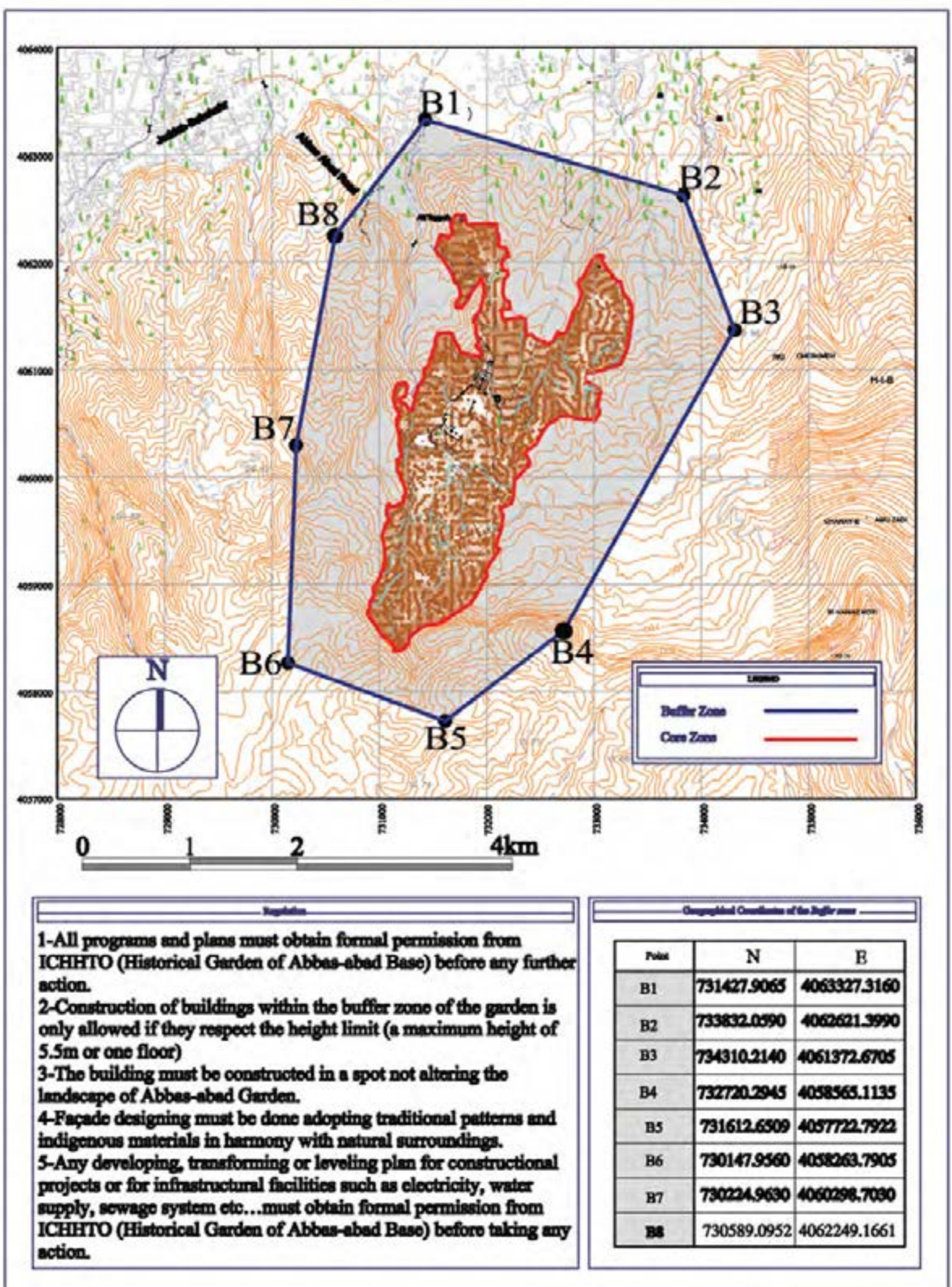


Fig. 23. Bagh-e Abbas Abad Buffer Zone boundary



Fig. 24. Bagh-e Shahzadeh Core Zone boundary



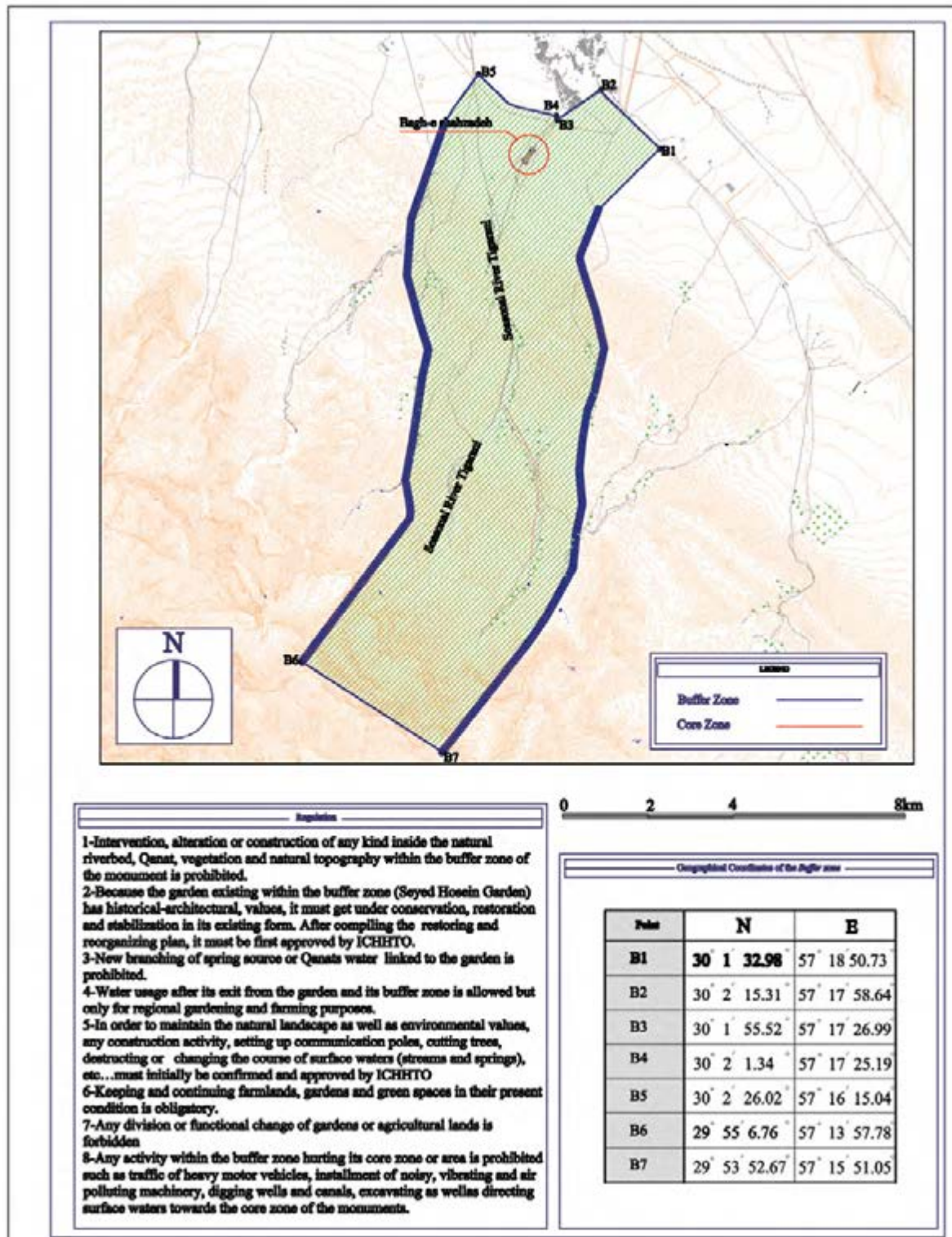


Fig. 25. Bagh-e Shahzadeh Buffer Zone boundary

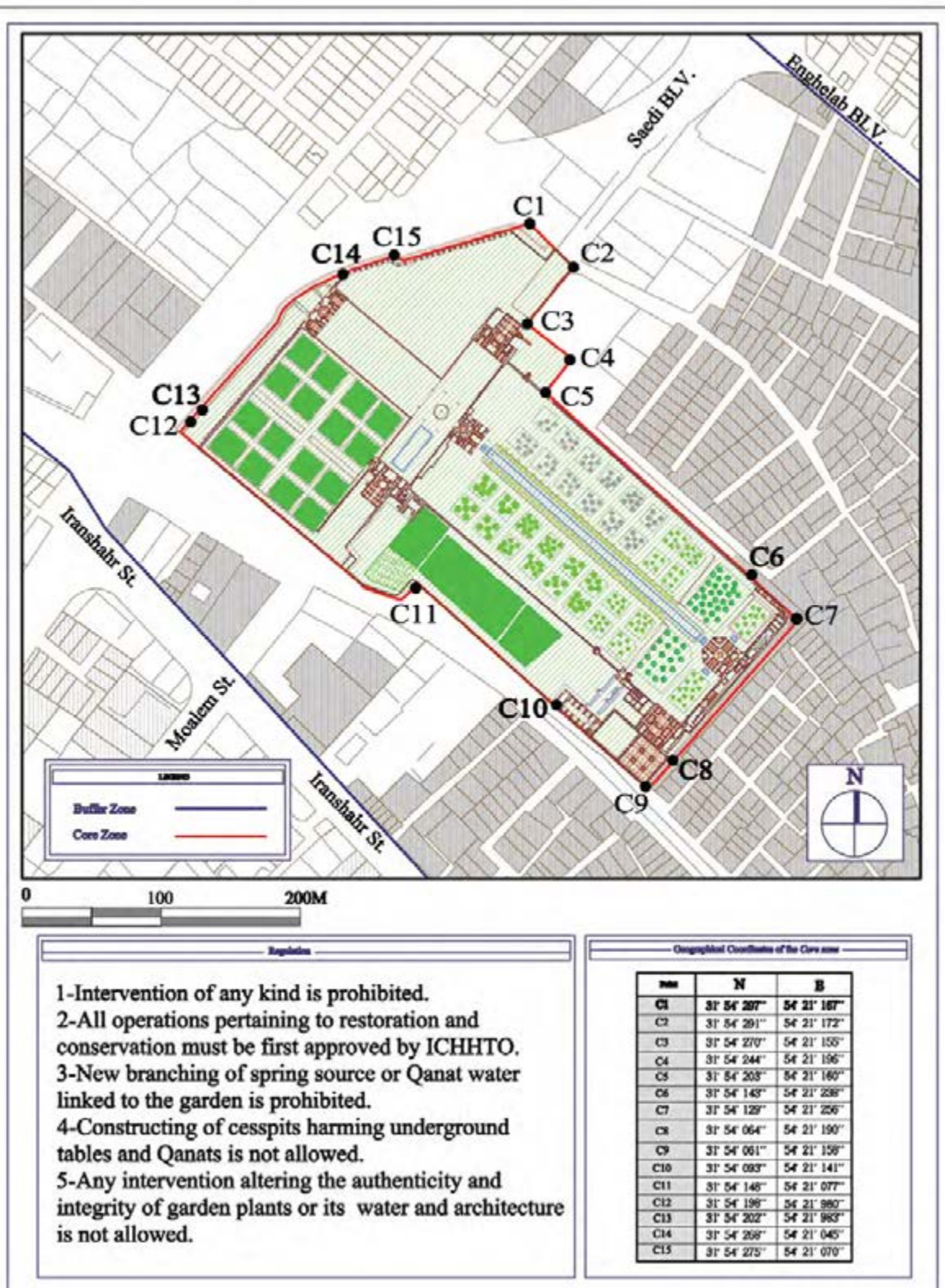


Fig. 26. Bagh-e Dolat Abad Core Zone boundary

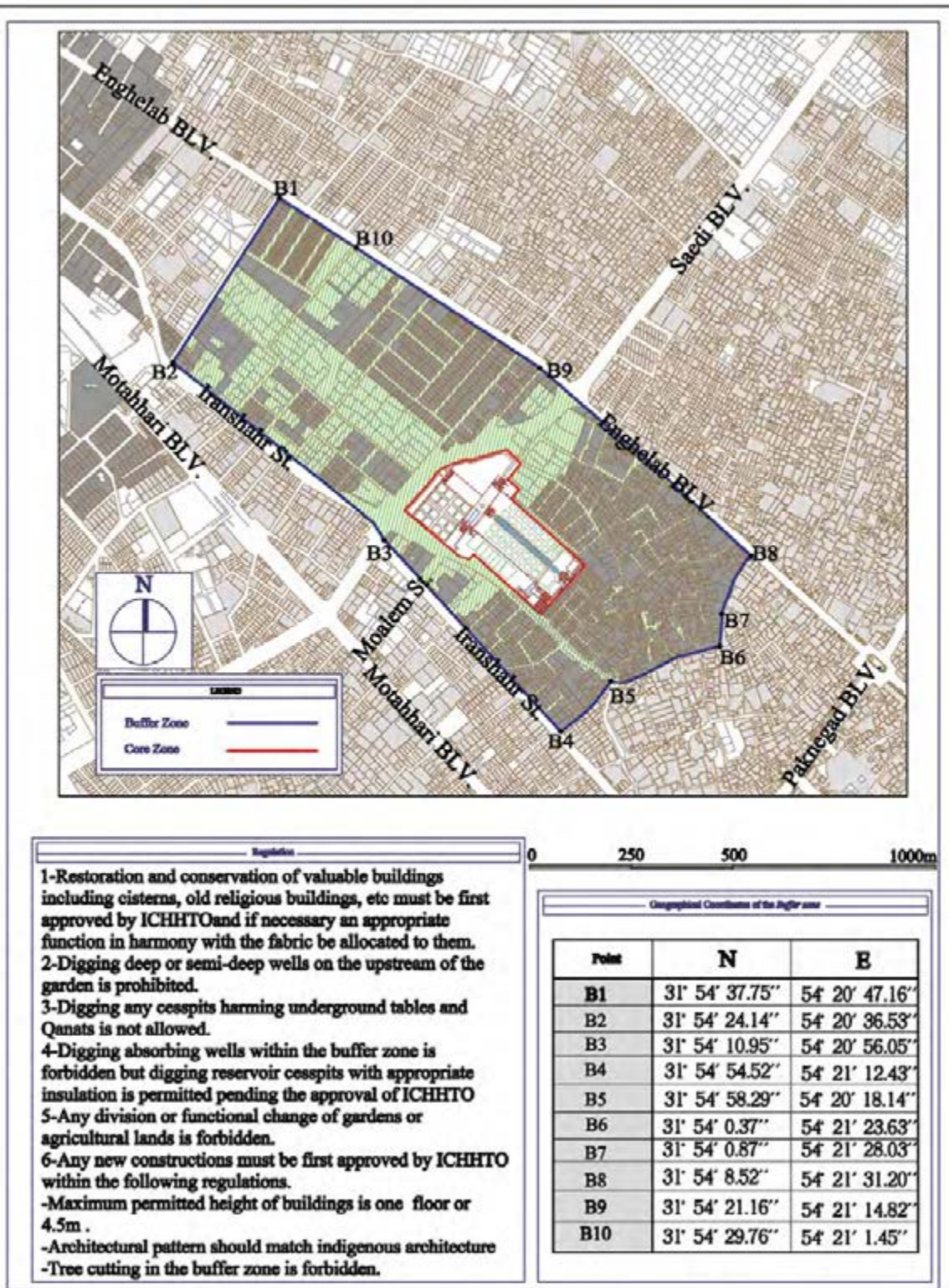


Fig. 27. Bagh-e Dolat Abad Buffer Zone boundary

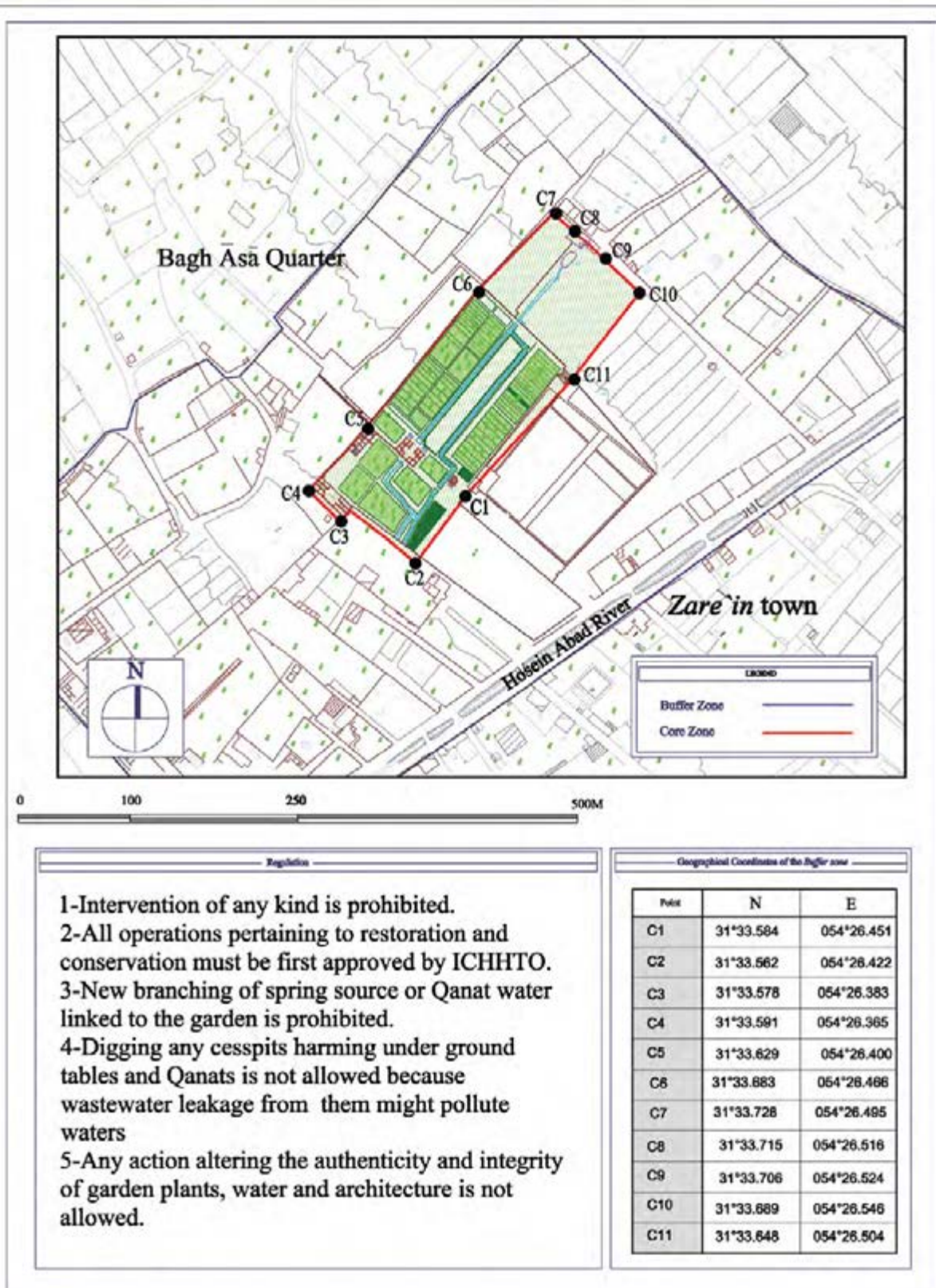


Fig. 28. Bagh-e Pahlavanpur Core Zone boundary

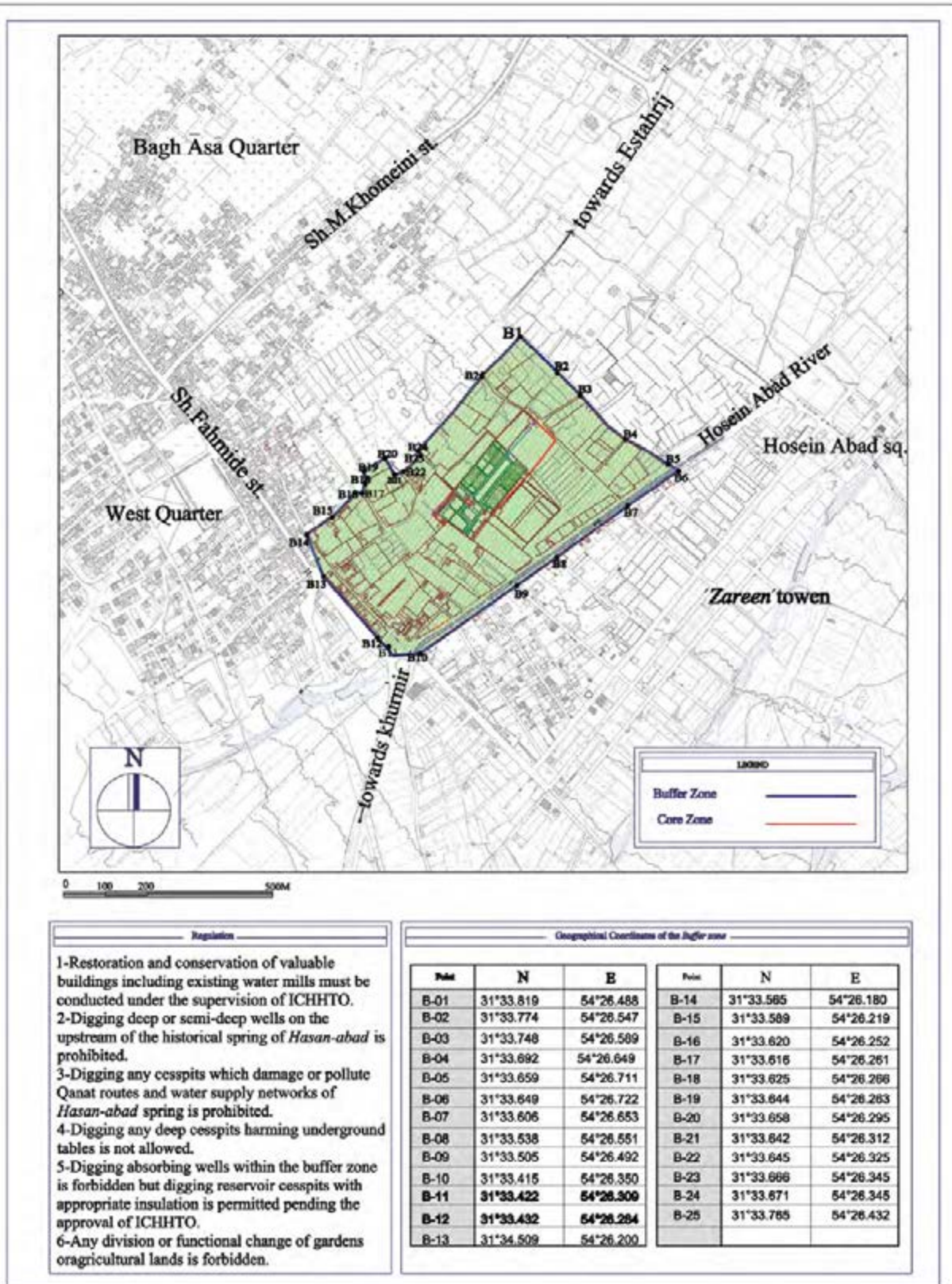


Fig. 29. Bagh-e Pahlavanpur Buffer Zone boundary

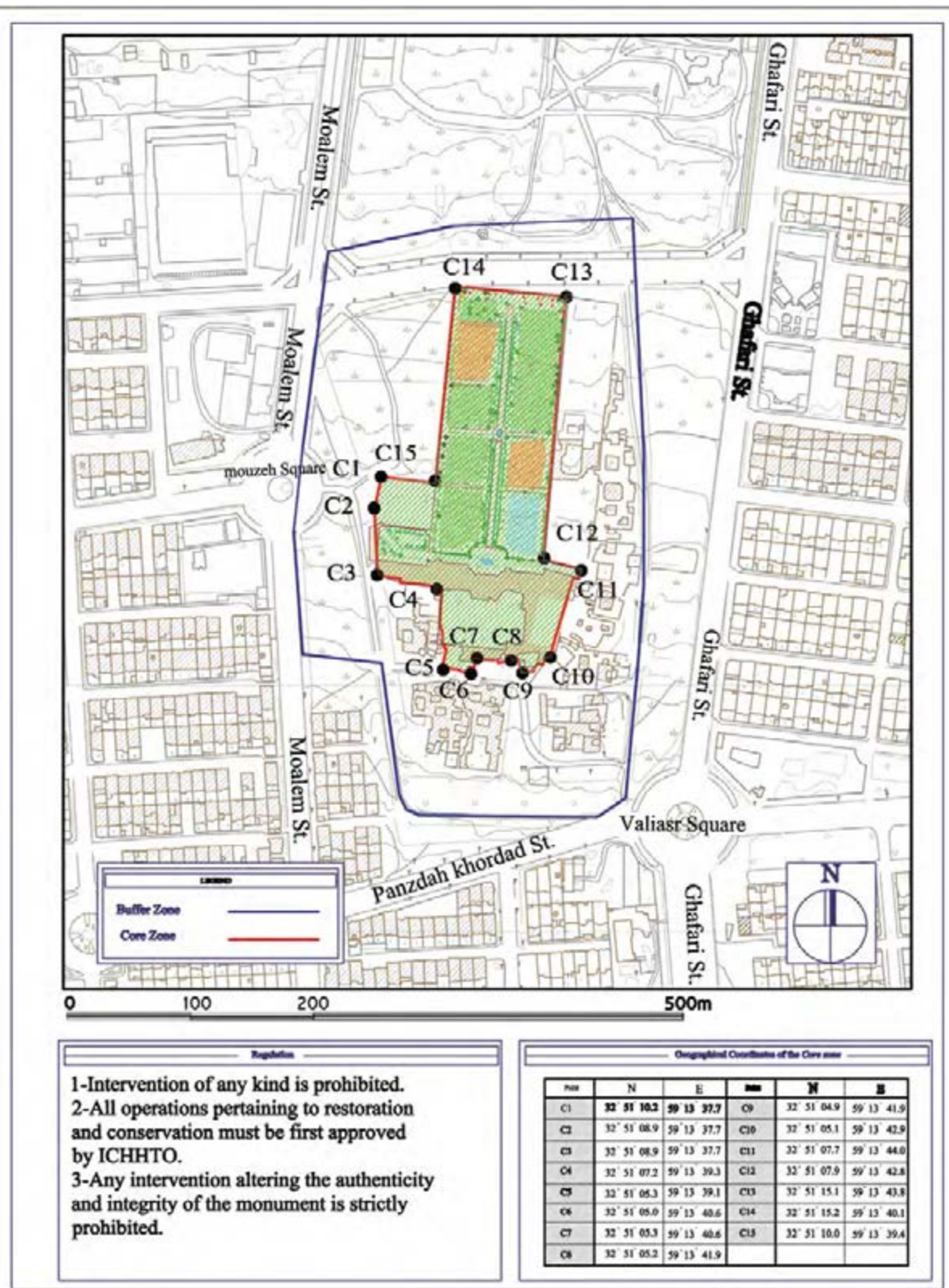


Fig. 30. Bagh-e Akbariyeh Core Zone boundary

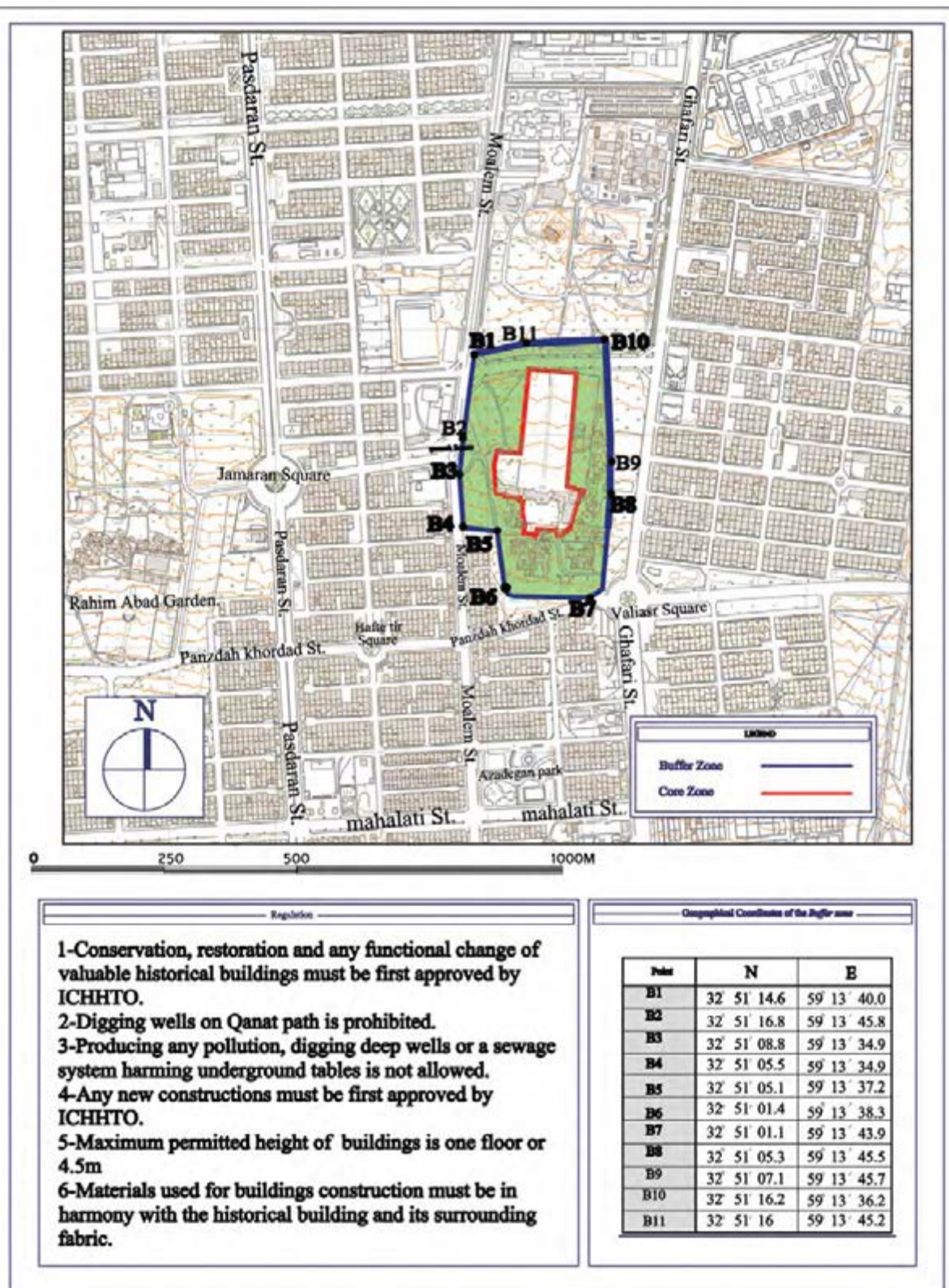


Fig. 31. Bagh-e Akbariyeh Buffer Zone boundary

# Justification



## Justification

### Statement of outstanding universal value

**Location:** The serial nomination of the Persian Garden consists of nine sites:

- 1- *Ancient Garden of Pasargadae*
- 2- *Bagh-e Eram*
- 3- *Bagh-e Chehelsotun*
- 4- *Bagh-e Fin*
- 5- *Bagh-e Abas Abad*
- 6- *Bagh-e Shahzadeh*
- 7- *Bagh-e Dolat Abad*
- 8- *Bagh-e Pahlavanpur*
- 9- *Bagh-e Akbariyeh*

These Gardens are located in different parts of Iran, the Ancient Garden of Pasargadae and *Bagh-e Eram* are situated in Fars province in south of Iran. *Bagh-e Chehel Sotun* and *Bagh-e Fin* in the city of Isfahan and Kashan both in Isfahan province. The City of Isfahan as the center of *Isfahan* Province is placed in a semi-desert area with Zaayande-rud River going through it. The terrain on which Kashan is situated ends in desert and mountains from opposite sides. But *Bagh-e Abas Abad* is located in north of Iran inside a dense forest of *Alborz* highlands with a climate under the influence of the surrounding mountains. *Bagh-e Shahzadeh* is situated in the city of Mahan in Kerman province in southeast of Iran. *Bagh-e Dolat Abad* and *Bagh-e Pahlavanpur* are in Yazd and *Mehriz* cities two which are important cities of Yazd province in central Iran with dry climate because it is located upon the so-called dry belt of the earth. *Bagh-e Akbariyeh* is located in the city of Birjand in southern Khorasan province.



Fig. 32. Panorama of Isfahan attributed to the painter Jan-Baptist Van Mour, showing the *Bagh-e Farahabad* and *Bagh-e Hizar Jarib* in the foreground, Sotheby's, London

**Qualities:** The Persian Garden is a unique artistic creation where art is manifested in association and combination with nature. It reflects the interaction of man and nature, taken to a level of near-perfection. It has been associated with significant cultural indicators such as poetry, philosophy, painting, music, calligraphy, symbolism, semeiology, sculpture, and carpet design. The Persian Garden has specific qualities, where it differs from other gardens in the world. The idea of the garden has also been reflected in the different aspects of Iranian approaches to life, including the creative design of household objects, residential, public and administrative buildings and facilities in cities and villages. Diverse cultural and natural aspects have been combined so as to demonstrate significant reflections of Iranian traditions, cultures, and belief systems. The miniature paintings, inscriptions, carpets, patterns and motifs, choices of colors, forms, and architectural styles, choices of flowers and trees, the overall layout of the gardens, the employment of specific techniques, and the design of water supplies have also resulted in the development of a sustainable technology and an intelligent use of natural resources.

**Criterion (I):** The Persian Garden represents a masterpiece of human creative genius, as has been testified by historians and explorers who have travelled to Iran over the course of centuries. The design of the Persian Garden, based on the right angle and geometrical

proportions, often divided into four sections, became known as *Chahar Bagh* (Four Gardens). The creation of the Persian Garden was made possible due to intelligent and innovative engineering solutions and a sophisticated water-management system, as well as due to the appropriate choice of flora and its location in the garden layout. Indeed, the Persian Garden has been associated with the idea of earthly Paradise, forming a stark contrast to its desert setting.

**Criterion (II):** The Persian Garden exhibits an important interchange of human values, having been the principal reference for the development of garden design in Western Asia, in Arab countries, as well as in Europe. It is particularly the geometry and symmetry of the architecture together with the complex water management system that seem to have influenced design in all these gardens. The word Paradise entered European languages from the Persian root word "*Pardis*" which was the name of a beautiful garden enclosed between walls.

**Criterion (III):** The Persian Garden bears exceptional and even unique testimony to the cultural traditions that have evolved in Iran and the Middle East over some two and a half millennia. During its evolution, the Persian garden has been a significant manifestation in the various cultural and social aspects of the society, becoming a central feature in private residences, palaces and public buildings, as well as in ensembles associated with benevolent or religious institutions, such as tombs, park layouts, palace gardens, *Meidans*, etc.

**Criterion (IV):** The Persian Garden is an outstanding example of a type of garden design, achieved by making the best use of natural and human elements and integrating significant achievements of the Persian culture into a physical and symbolic-artistic expression in harmony with nature. Indeed, the Persian Garden has become a prototype for the geometrically designed garden layout, diffused in a large part of the world, a counterpoint to the Chinese Garden in the Orient.

**Criterion (VI):** The Persian Garden is directly associated with cultural developments of outstanding universal significance. These include literary works and poetry for example by *Ferdowsi*, *Sa'di*, and *Hafez*. The Persian Garden is also the principal source of inspiration to the Persian carpet and textile design, miniature painting, music, architectural ornaments, etc. In the *Avesta*, the ancient holy book of the *Zoroastrians*, the Persian Garden and its sacred plants are praised as one of the four natural elements (earth, heavens, water, and plants). The *Chahar Bagh* is a reflection of the mythical perception of nature, and the cosmic orders in the eyes of the ancient Iranian peoples.

### **Authenticity and integrity**

The authenticity of the nine nominated gardens has been respected regarding design, technology, building materials, setting as well as intangible heritage aspects based on the science of restoration, natural environment and the indigenous culture. Fortunately during the restoration and maintenance of these gardens, traditional knowledge and building materials have been utilized. Furthermore, traditional systems of water supply such as *Qanat* have been maintained in all, except *Bagh-e Eram*, *Bagh-e Chehel Sotun* and *Bagh-e Dolat Abad* where urban development has forced to shutting down *Qanat* sources and replacing them with wells. However, the water circulation system in the gardens has been kept in their original conditions. Moreover, *Bagh-e Abas Abad* of Behshahr and Ancient Garden of Pasargadae have preserved all of their elements as an archeological site.

In most of the gardens the plants and their layouts are continuance with the historical tradition of Persian landscape gardening. Regarding their surrounding landscape, it must be said that those gardens, which are located in rural areas, have kept their virgin landscapes but those situated in urban areas are subject to regulations approved in past or present respecting their landscapes.

The integrity of these nine gardens was studied not only from a visual point of view but also from the structural and functional ones. Fortunately, all the selected gardens are still being used publicly from a functional perspective and has also fully been maintained the integrity of their entire elements from a structural perspective.

**Protection and management:**

The nine nominated gardens, which together represent prominent values of the Persian Garden, are managed under the supervision of the National Base of Persian Garden. Within the existing management system, the National Base of Persian Garden is responsible for macro scale policy making and provincial bases have the executive duties.

Considering previous conservation operations and approved regulations, it can be said that core and buffer zones of the nominated gardens are in a decent condition.

After the establishment of the National Base of Persian Garden and provincial bases, all nominated gardens came under integrated financial and technical supports.

At present, conservation and management of all gardens are underway respecting their authenticity and integrity and aiming at conserving universal prominent values of the Persian Garden.

## **Criteria under which inscription is proposed and justification for inscription under these criteria**

### **Preface**

The nomination of the Persian Garden includes nine selected gardens (*Bagh*), representing different types of gardens related to different climates in Iran. They provide evidence of the development of the Persian Garden from the Achaemenids period until the present. This is a serial nomination that is proposed to meet the criteria I, II, III, IV, and VI. The nominated gardens represent a selection from a much larger numbers of the existing gardens (the selection criteria are given in the comparative studies).

The Persian Garden is a unique artistic creation where art is manifested in association and combination with nature. This manifestation is even more prominent considering that, over the course of ages, it has been associated with significant cultural indicators such as poetry, philosophy, painting, music, calligraphy, symbolism, semeiology, sculpture, and carpet design. In this regard, the Persian Garden has specific qualities, where it differs from other gardens in the world.

The Persian Garden reflects the interaction of man and nature, taken to a level of near-perfection. The nominated gardens illustrate the trends of garden development in a variety of cultural, political, and social aspects ever since the Achaemenids reign. They also respond to the challenges of the extreme climatic and geographic conditions in the rather dry and harsh nature of the country.

The gardens and their contexts have evolved paving the way for an outstanding manifestation of human creativity in perfect harmony with nature, being also wonderfully tinted by local features. Such perfectly designed combination is the fruit of wise and intelligent application of various fields of knowledge including the social and biological sciences. The Persian Garden has thus resulted in an enjoyable and harmonious representation of philosophy, aesthetics, architecture, poetry, music, painting, sculpture, various engineering and water-management techniques, and environmental sciences.

Indeed, the Persian Garden is one of the most creative cultural, artistic and scientific manifestations of the Iranian culture. It has combined great experience in the creative management of natural resources and landscaping based on the learning and experience transmitted by people over time.

The idea of the garden has also been reflected in different aspects of Iranian approaches to life, including the creative design of household objects, residential, public and administrative buildings and facilities in cities and villages. Diverse cultural and natural aspects have been combined so as to demonstrate significant reflections of Iranian traditions, cultures, and belief systems. The miniature paintings, inscriptions, carpets, patterns and motifs, choices of colours, forms and architectural styles, choices of flowers and trees, the overall layout of the gardens, the employment of specific techniques, and the design of water supplies have also resulted in the development of a sustainable technology and an intelligent use of natural resources.<sup>1</sup>



Fig. 33. Aerial view of *Ancient Garden of Pasargadae*

<sup>1</sup> Articles of The First Conference on Persian Garden, Tehran, Iran Contemporary Art Museum, 2009.

**Criterion (I): “Represent a masterpiece of human creative genius”**

The Persian Garden represents a masterpiece of human creative genius, as has been testified by historians and explorers who have travelled to Iran over the course of centuries. The prominent historian and Iranologist, *Arthur Upham Pope* mentions in this regard:

"Iranians love of trees, water, and flowers has gradually turned into an eternal love which has manifested itself in Persian Gardens." and "Every Garden was a Paradise. The Persian Garden was Eden Eternal. So essential is the garden to the Persian conception of life that both the first reality and ultimate bliss have been interpreted in garden terms. The Persian, enlightened and practiced Epicurean, sees the beauty of every blossom and loves every nuance of color, but to him a garden means more than that" (Arthur Upham Pope, 1938-9).

The oldest evidence of the Persian Garden has been discovered in Pasargadae, in the royal ensemble created by *Cyrus the Great*, in 529 BC. It can be presumed that *Cyrus the Great* had employed various features from the arts, architecture, and garden design of the earlier civilizations such as those of Egypt, Mesopotamia, Elam (Western Iran), and *Sindh Valley* (in today's Pakistan). These would have included the use of right angles and geometrical proportions. What matters is the creative combination of all these elements in the development and design of the Persian Garden with its specific identity and characteristics. This innovative character is clearly evident in the design of the garden and palace layout of Pasargadae. It can be considered one of founding moments of the Persian spirit, which continued to evolve through centuries based on accumulated know how and values. Furthermore, the intelligent and careful engineering and water-management system, the appropriate choice of plants and their locations in the layout, all bear witness to *Cyrus'* interests in nature and can be considered a testimony to the unique features of the Persian Garden not recorded elsewhere in the world.

The principal idea of the Persian Garden design, known as *Chahar Bagh* (Four Gardens) is associated with concept of the four gardens of creation and four rivers of the garden of Paradise (Eden). This is mentioned in the Holy *Quran* and the book of genesis. The Persian Garden has in fact been considered the symbolic representation of heaven on earth in the form of an earthly paradise.

The constantly evolving creative design and building of Persian Gardens in the very heart of the arid lands of Iran is a unique representation of human genius. Due to lack of water in



these areas, it has been necessary to supply this through the creation of a sophisticated, man-made water supply system, based on underground water canals, *Qanats*. With the development of the garden, also the horticulture comes into existence, and the art and architecture are manifest of reaching certain perfection. The Persian Garden has also been influential in the development of cities and villages in the desert areas.

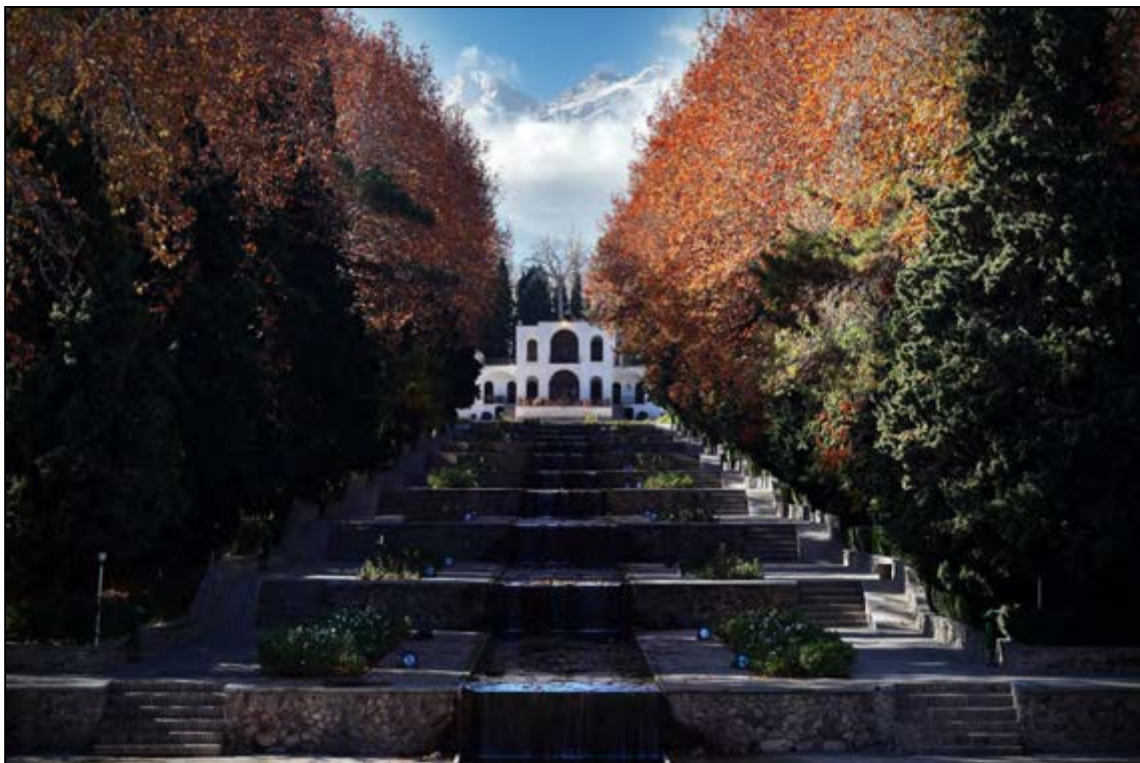


Fig .34. *Bagh-e Shahzadeh Mahan*

**Criterion (II): “Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on development in architecture or technology, monumental arts, town-planning or landscape design.”**

The Persian Garden exhibits an important interchange of human values, having been the principal reference for the development of garden design in Iran, India, Pakistan, and Afghanistan, e.g. Mogul Gardens, *Taj Mahal* in *Agra*, *Humayun’s Tomb* in *Delhi*, *Shalimar* in *Kashmir* and *Lahore*, *Akbar* and *Nishat* in *Kashmir*, *Shahdara* in *Lahore*, *Babur* and *Wafa* Gardens in *Afghanistan*, gardens in the Arab countries, as well as in Europe, e.g. *Alhambra* in *Spain*, Italian Renaissance and Baroque Gardens. It is particularly the geometry and symmetry of the architecture together with the complex water management system that seem to have influenced design in all these gardens. The same axial geometry and typical *Chahar Bagh* layout are evident even in the historic garden of *Sigiriya*, *Sri Lanka* (6<sup>th</sup> century AD). The word *Paradise* entered European languages from the Persian root word "*Pardis*" which was the name of a beautiful garden enclosed the within walls.

The introduction of the *Chahar Bagh* design to lands of humid climate proves the flexibility and universality of this model. The Persian Garden has long been known as a prototype of geometrical gardens in the world, and it has in turn been influenced by European Gardens in the use of architectural ornaments, choice of flowers, and installation of statues, particularly under the reign of the *Qajars* in the 19<sup>th</sup> century.

**Criterion (III): to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living, or which has disappeared:**

The Persian Garden bears exceptional and even unique testimony to the cultural traditions that have evolved in *Iran* and the *Middle East* over some two and a half millennia. During its evolution, the manifestation of the Persian Garden has been evident in the various cultural and social aspects of the society, such as the private residences, palaces and public buildings, as well as ensembles associated with benevolent or religious institutions, including tomb areas, park layouts, palace gardens, *Meidans*, etc.

This cultural tradition has contributed to refining and enriching other associated cultural elements such as poetry, music, miniature, arts, architecture, and urban design. Architectural

ornaments in gardens have developed becoming a prelude to other forms of architecture. Traditional house design concept is such as to always allow views to the garden. The *Iwan* (Porch), the central space in a traditional house, was arranged in the garden axis.

Garden tradition is even reflected in the development of urban design, considering that the main street of a city often became a garden avenue, as was the case especially in the *Chahar Bagh* Avenue in Isfahan, dating to the Safavids period (17<sup>th</sup> century). Such avenues link various urban features such as bazaars, *Meidans*, palaces, mosques, and fortifications, making these environments agreeable as places for living.

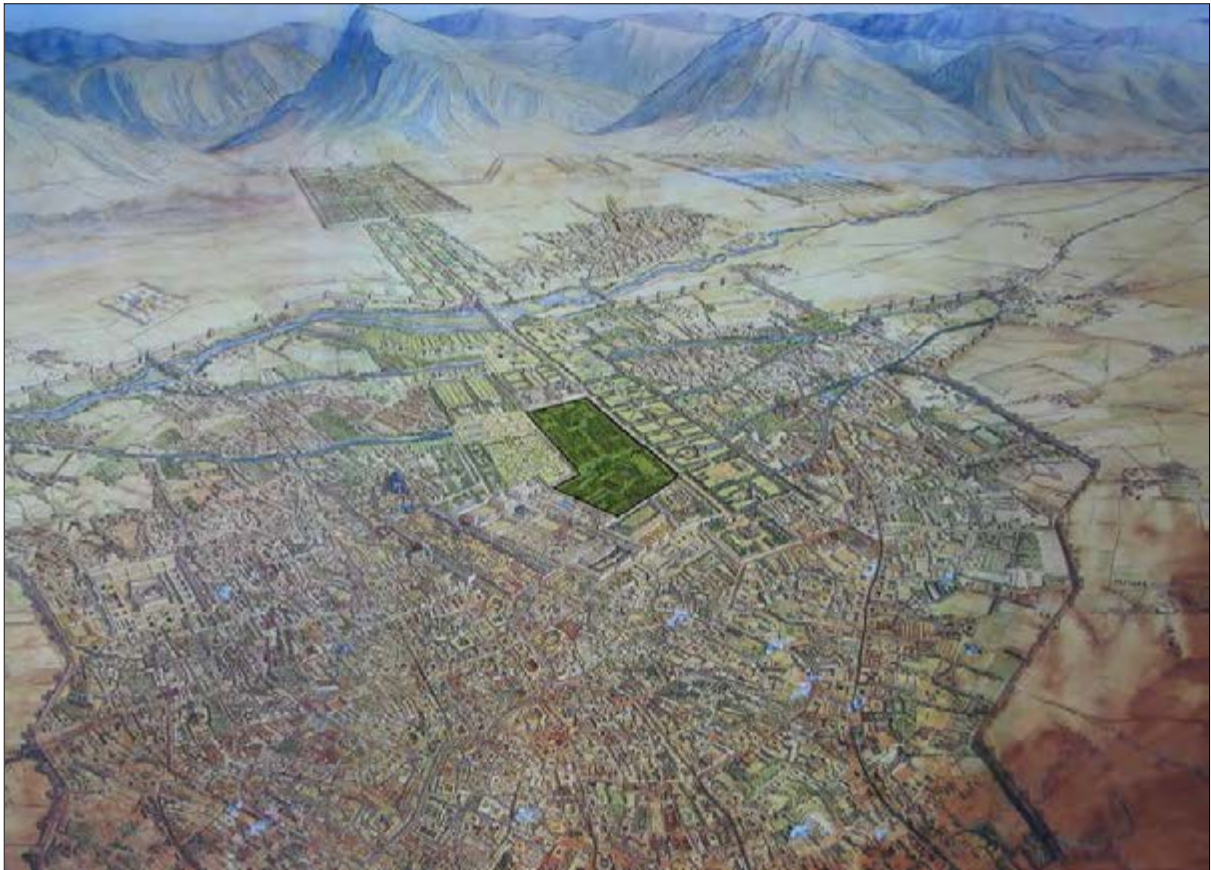


Fig. 35. *Bagh- Shahr-e* Isfahan (The city of gardens), Source: Bavand Consult Engineering

1. plan of Chahrbagh by Engelbert Kaempfer, British Library, Sloane 5232, fol.41

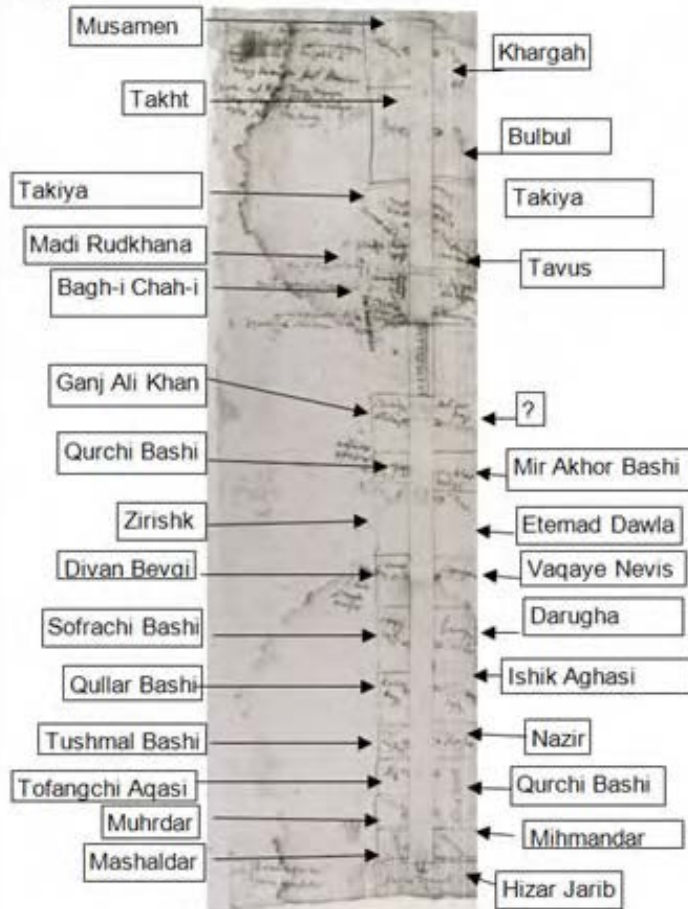


Fig.36. Plan of khiyaban-e *chaharbagh* by Engelbert Kaempfer, British Library, Sloane 5232 fol.41, [www.middleeastgarden.com](http://www.middleeastgarden.com)

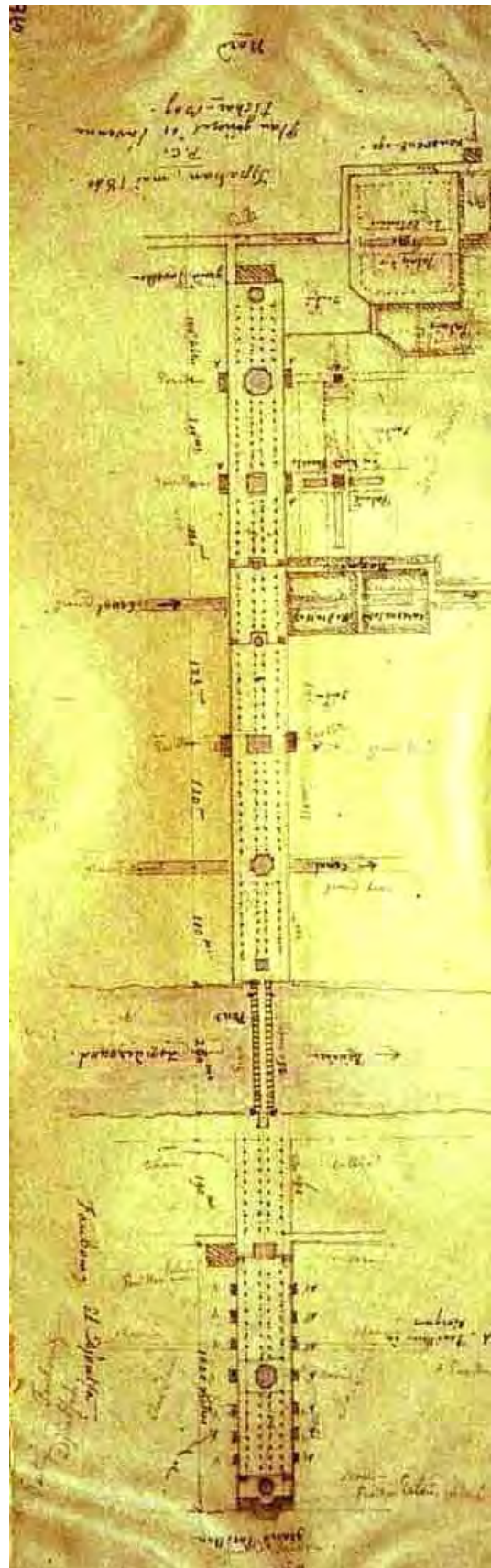


Fig. 37. Plan of the khiyaban-e *chaharbagh* by Pascal Coste, [www.middleeastgarden.com](http://www.middleeastgarden.com)

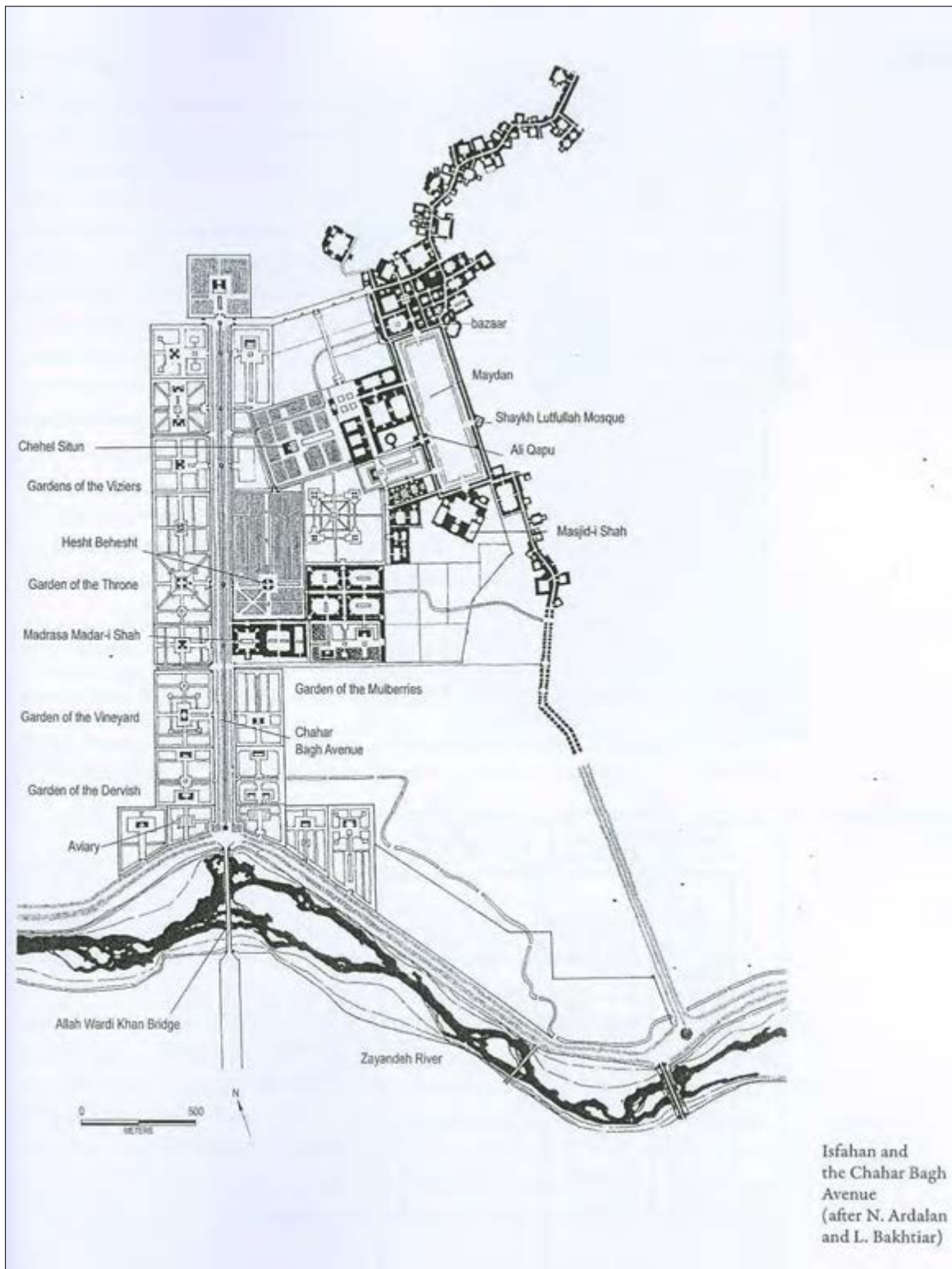


Fig. 38. Isfahan and the *Chahar Bagh* Ave. (N. Ardalan and L. Bakhtiar)

Despite being originally created in the heart of the desert lands of Iran, the cultural tradition of the Persian Garden also emerges in much more lavish areas such as north of Iran, Kashmir, and Agra. The tradition has lived through ages, and it is still alive with all its creativity.

**Criterion (IV): "To be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history."**

The Persian Garden, developing over more than two millennia, is an outstanding example of a type of garden design, achieved by making the best use of natural and human elements and integrating significant achievements of the Persian culture into a physical and symbolic-artistic expression in harmony with nature. Indeed, the Persian Garden has become a prototype for the geometrically designed garden layout, diffused in a large part of the world.

Historically, the Persian Garden is the prototype of the "Western" garden design, while the 'Chinese Garden' represents the Oriental design. The Persian Garden is a special creative achievement of man, which through the course of history has been closely associated with the arts, as well as representing human approach to the nature in its strictly designed layout. The Chinese Garden, instead, has generally been asymmetric and free in its conception. Both types of garden have strong symbolic associations, even though they represent two different approaches in their expressions. (Refer to comparative analysis, page 506)

The Persian Garden has been distinguished particularly in: a) The garden and its components (walls, use of water in both applied and ornamental forms, plants, shades, geometry, and the position of the onlookers), b) The relationship with the surrounding environment, and c) The cultural associations. The prototype of the Persian Garden is best described in the treatise known as *Irshad-oz Zira'at*<sup>2</sup> ('guide to agriculture'), written by *Heravi* in the early days of the rule of the Safavids (in the 17<sup>th</sup> century), and it is known to have been one of the references for Western symmetrical garden designs.

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<sup>2</sup> Abunaser-e Heravi, Qaseme-bn-e Yousof, (AH 921/ AD 1515); "Irshad-oz Zirāat".

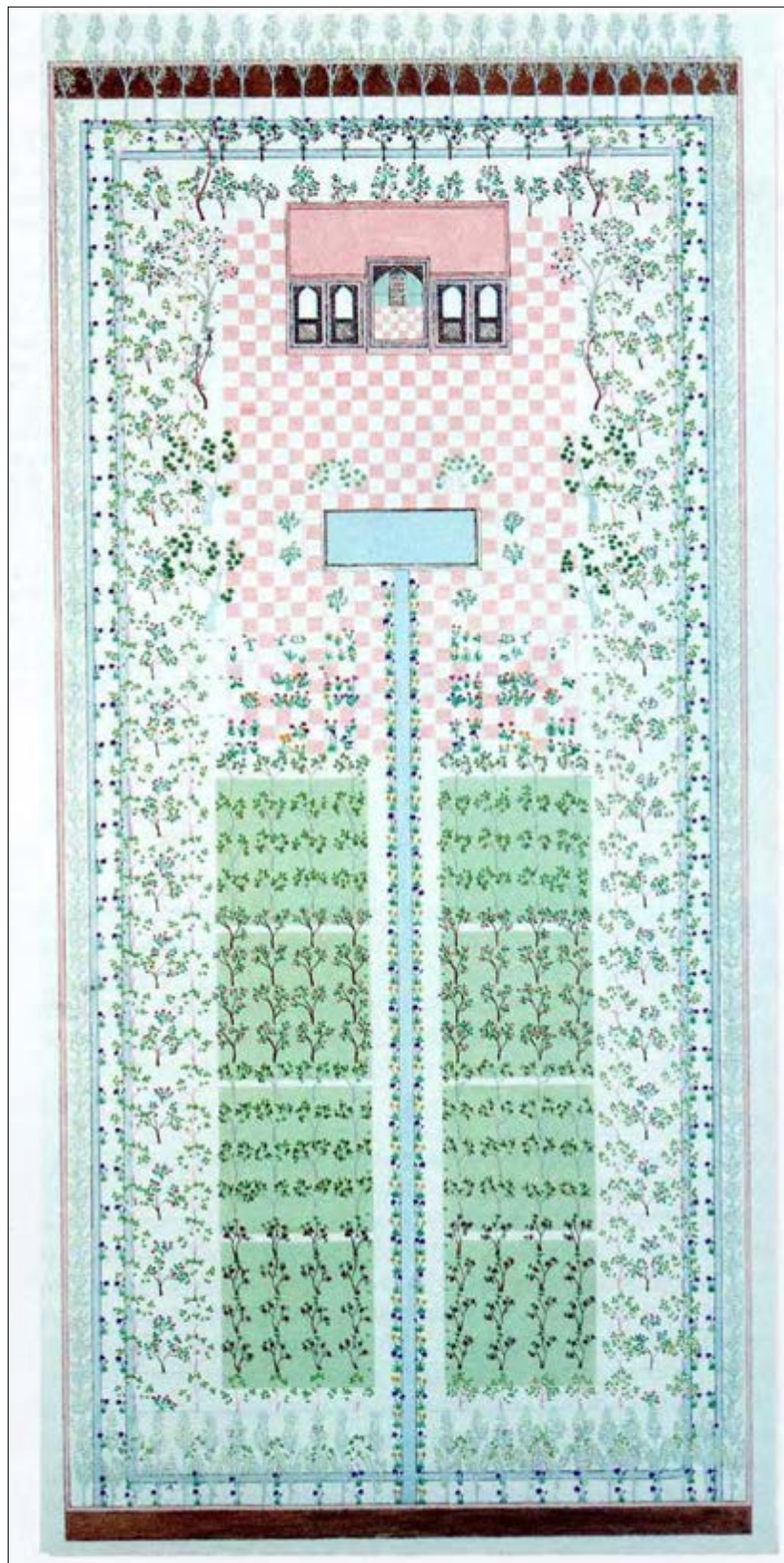


Fig .39. Graphical Reconstruction of The Chahar Bagh Type of Garden according to Heravi.(Drawing by Mahvash Alemi)

Born originally in desert climate, the Persian Garden has, as a phenomenon, required the employment of all possible resources that were available. All that was required had to be specially designed and produced. This meant inventing special techniques of soil fertilization and systems of water management (*Qanats*), the adjustment of environmental elements and providing shade, choosing suitable plants, indeed creating an artificial environment that was in strong contrast with its harsh, desert setting. The techniques used for the creation of the Persian garden thus represent benchmarks of human creativity in a significant period of human history.<sup>3</sup>



Fig .40. Aerial view of a Qanat passing under the grounds located near Yazd  
Source: Persian Garden a Reflection of Paradise, 2004

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<sup>3</sup> Articles of The First Conference on Persian Garden, Tehran, Iran Contemporary Art Museum, 2009.



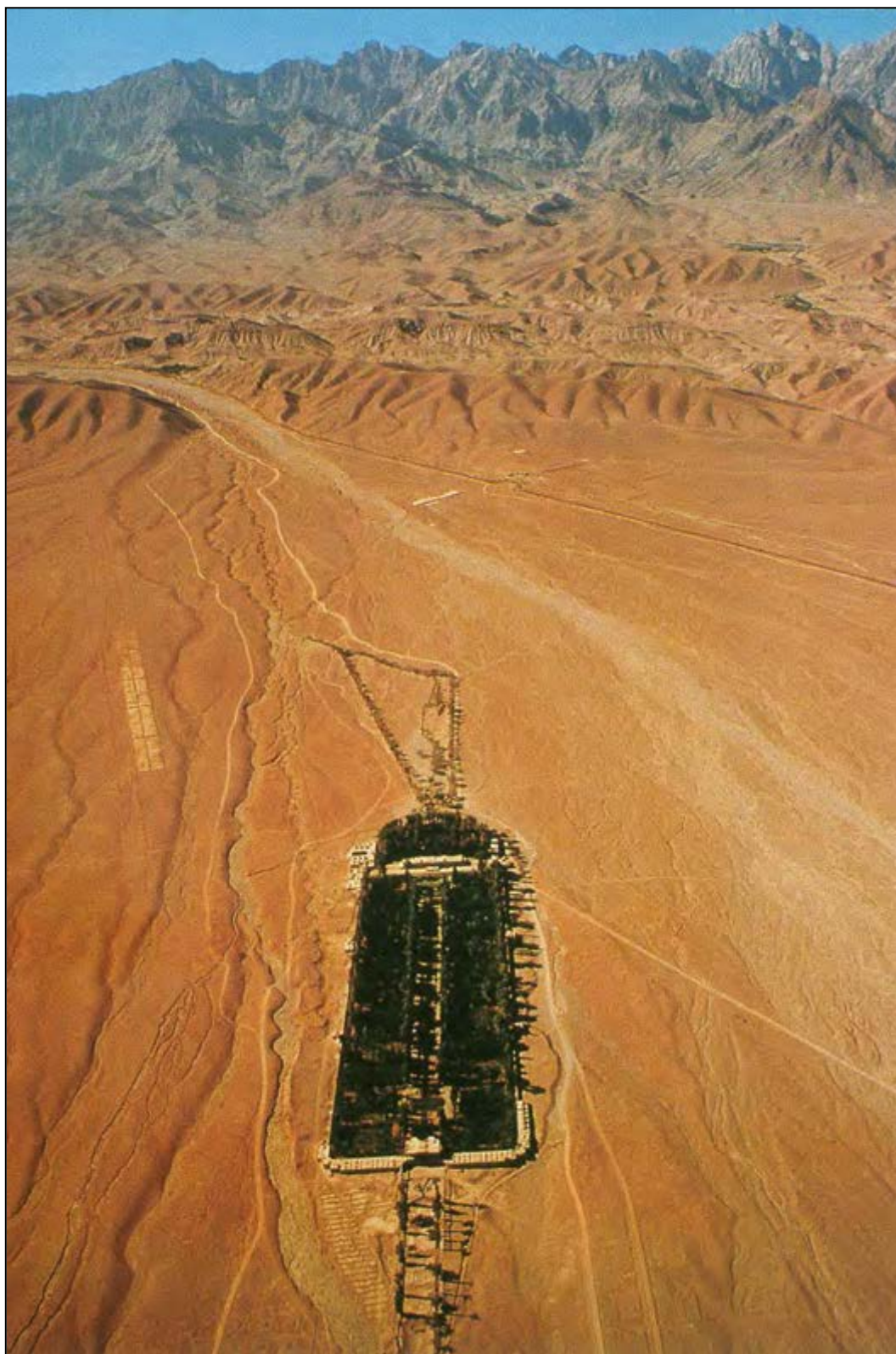


Fig .41. *Bagh-e Shahzadeh*, Mahan, Kerman province

**Criterion (VI): “To be directly or tangibly associated with events or living traditions, with ideas, or with belief, with artistic and literary works of outstanding universal significant.”**

The Persian Garden is directly associated with cultural developments of outstanding universal significance, including literary works, poetry, carpet design, miniature painting, music, architectural ornaments, etc.



Fig. 42. The miniature (painted 1539 -1543) attributed to the painter Aqa Mirak, represents the *Bagh-e Saadat* in Qazvin ([www.middleeastgarden.com](http://www.middleeastgarden.com))



Fig.43. Right: Persian garden and Eden, (Aryaseb, Dadbeh)

In the *Avesta*, the ancient holy book of the *Zoroastrians*, the Persian Garden and its sacred plants are praised as one of the four natural elements (earth, heavens, water, and plants). It has constantly been emphasized inasmuch as *Ahura Mazda* is referred to as living in the *Minavi* ('Heavenly Garden'). All these sacred and mythical concepts have been reflected in Cyrus' garden in *Pasargadae* in the form of the geometry of *Chahar Bagh*, which is a reflection of the mythical perception of nature, and the cosmic orders in the eyes of the ancient Iranian peoples.

This idea changed into a symbolic illustration of the Paradise after Islam reached Iran, and after *Quranic* ideas merged into Iranian beliefs in the form of materialization of Heavenly Paradise on Earth. Like other holy books, the *Holy Quran*, too, has described the Heaven as a garden. Allah has created such gardens for the well-doers as places of eternity, serenity, and salvation. As the Persian garden historically precedes Islam, the account of Paradise in the *Holy Quran* in its mundane form is indeed a description of the Persian Garden. The description of the flow of water in brooks, the springs bubbling from in the middle of the river *Kowsar*, the fruit trees and their shades, are clear examples of this. Such an orderly approach soon influenced literature, poetry, carpet and textile design, music, architectural ornaments, and other artistic forms.

The significance of the concepts of the Persian Garden lies in the creation of an environment suitable for reflection, discussion, and composing poetry, a place where one can receive the inspirations of the spiritual world and reflect them in the mundane world. The metaphorical depiction of gardens is evident in works of poets such as *Omar Khayyam*, *Sa'di*, and *Hafez*, as well as *Ferdowsi*, *Manuchehri*, and *Nezami* in their poems. The spiritual concept of garden is so tangible for the minds of the Iranians that the major parts of literary works of the prominent poets is linked to description of gardens. Even more significant, in the *Shah Nameh* (Book of Kings) by *Ferdowsi* the entire land of Iran is referred to as one large garden, and *Sa'di* has named two of his books as *Golestan* and *Bustan* ('rose garden' and 'flower garden'), which are indeed other terms to refer to the Persian Garden.

Most Iranian miniature paintings depict poetic or mystic feasts in the Persian Garden as a representation of the earthly Paradise. This is the common topic in illuminated manuscripts.

Perhaps the most significant association with the Persian Garden is found in the motives and patterns of the Iranian carpet design. The Persian carpet is generally designed as a stylised depiction of a garden and plants; many even directly reflect the layout of the *Chahar Bagh* pattern. Thus, the tradition of gardens and garden design in Iran with its model and concepts has directly associated with other cultural elements of great importance, insomuch as it has resulted in parallel development of gardens and traditions, which are still a vivid presence and influence in the Iranian society.

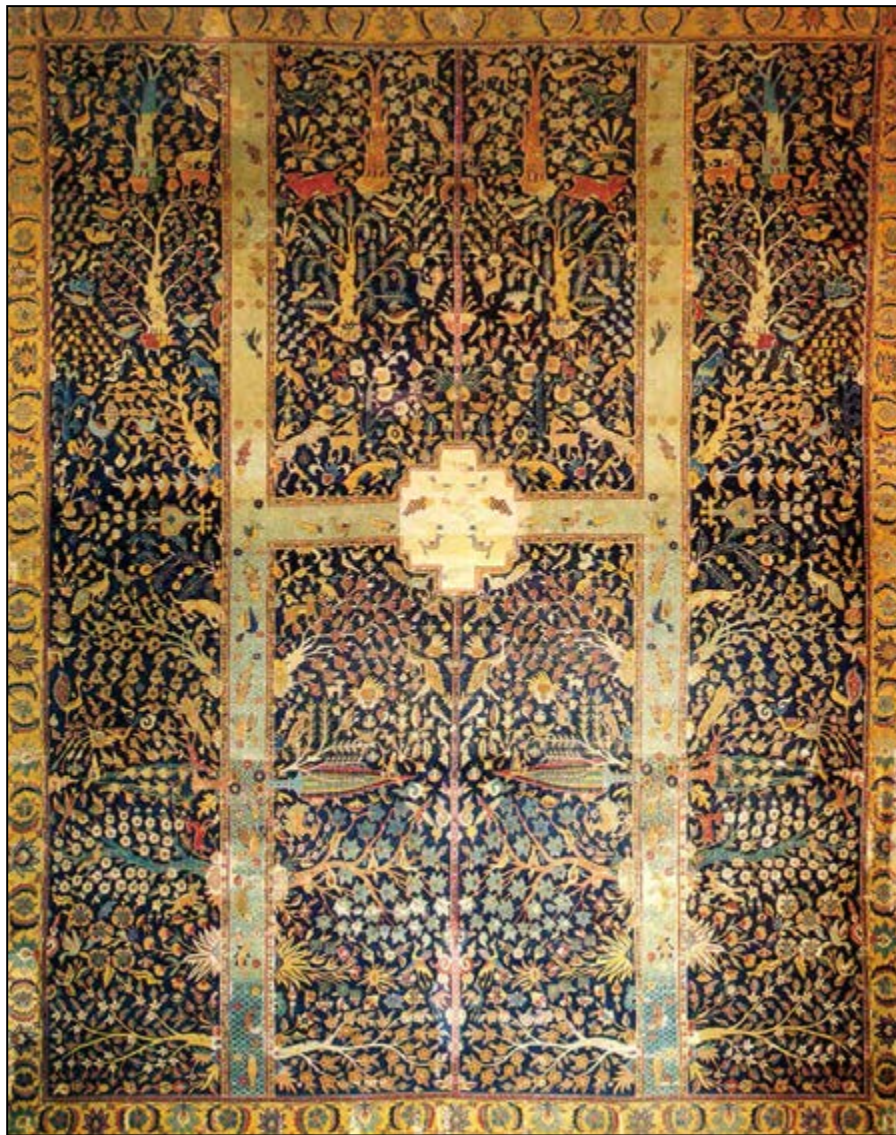


Fig. 44. Carpet known as Wagner belonging to Safavids period with images of H-shaped water canals, a basin in the middle and flowers with a *Chahar Bagh* pattern.

صبحدم مرغ چمن با گل نوحه کفت  
 گل بخندید که از راست زخم ولی  
 که قطع داری از آن جام صمغی لعل  
 تا دیدی بوی محبت بمشامش نرسد  
 در گلستان ارم دوش خود از لطف هوا  
 کفتم ای مندم جام جهان بنیت کو  
 سخن عشق نه آن است که آید بر زبان  
 نازم کن که درین باغ بسی چون تو شکفت  
 بیچ عاشق سخن سخت به معشوق نگفت  
 ای بسا در که بونک مره ات باید بخت  
 هر که خاک در میخانه بر خار ه زفت  
 زلف سنبل به نسیم سحر می آشفست  
 کفت افسوس که آن دولت بید از بخت  
 ساقی می ده و کوتاه کن این گفت و شفست

اشک حافظ خرد و صبر بر دریا انداخت  
 چکند نور عنسم عشق نیارست نهفت

"حافظ"

At dawn, the bird of the sword spake to the rose:  
 "Display less disdain; for, in this garden many a one like thee hath blossomed".  
 The rose laughed saying: "We grieve not at the truth; but  
 "No lover spoke a harsh word to the beloved."  
 If thou desire ruby wine from that begemmed cup,  
 O many the pearl that it is necessary for thee to pierce with the point of thy eyelash.  
 To eternity without end, the perfume of love reacheth not the perfume place of him  
 Who, with his face, swept not the dust of the door of the tavern.  
 Last night, in the garden of Eram, when from the bounty of the air,  
 The tress of the hyacinth was disturbed by the morning breeze,  
 I said: "O throne of Jamshid! thy cup world-displaying, where?"  
 It said: "Alas! wakeful fortune slept."  
 Not that which cometh to the tongue is the talk of love:  
 O Saki! give wine; make short this uttering and hearing.  
 Into the sea, the tear of HAFEZ hath cast wisdom and parience:  
 What shall he do? The consuming of love's grief, he cannot conceal.

"HAFEZ"

Fig. 45. Poem of Hafez-e Shirazi

**Textual description of the boundaries of the nine nominated gardens:**

**Textual description of the boundaries of the nine nominated gardens:*****Ancient Garden of Pasargadae;*****Description of the Core Zone:**

For textual description of the pasargadae boundary the line is beginning from C1 located in the southwest of *Cyrus* tomb in the northwest direction the line goes first reach to C2 located in northwest of tomb then it reaches to C3 and C4 which are located near the archaeological hills. The line turn according to this hills first reach to C5 that the west branch of *Polvar* river is in the north of this point. After passing C6,C7 and C8 line reach to north side of *Tell-e Takht*. From the C8 point, line goes to south east wards till reach to C9. from C9 the boundary line goes back to south west wards, in this path the line passing the C11 , C12, C13, C14, C15 and C16. from the C16 which is located near the palace R, the bondary line turn to southwest after passing C17,C18 reach to C19, located in north of *Madar Soleyman* village. From the C19 boundary line goes to northwest till reach to C20 located in northeast of *Cyrus* tomb. From this point boundary line goes to southwest wards and after passing C21,C22 and C23, reach to the C24 located in south west of *Cyrus* tomb.

**Description of Buffer Zone:**

The boundary line start from B1 which is located in the north of the *Madar Soleyman* village. B2 is located along the northern side of the *Kordshul* village. From B2 the line goes to the north west with respect to archaeological site and reach to B3. from B3 the line turn to northwest till reach to B4 which is located in the north of the *Yaqub* hill. From B4 the line turn to the southeast and pass from B5 and B6 then reach to the B7, which is near the *Abolverdi* farms. From B7 the line goes to the southeast and line reach to B8 which is located in east of the *Mobarak Abad* village. From B9 the line goes towards southwest wards till reach to B9 located in south of *Mobarak Abad* village. B10 is located in the northeast of the *Tang-e Bolaghi*. *Polvar* River is in the South of B10 and *Madar Soleyman* farms are in the north east of this point. According to west and northwest boundary of *Madar Soleyman* village which contains B11, B12, B13, B14, B 15, B16, B17, B18,B19 and B20.

***Bagh-e Eram;*****Description of Core Zone:**

Start from C<sub>1</sub> (N:29° 38' 06.4" E: 52° 31' 42") and continue to the west and through *Eram* Street. The *Eram* Street is on the right side and the *Bagh- e Eram* is on the left. This direction continue up to C<sub>2</sub> (N: 29° 38' 10.0" E: 52° 31' 37.9") in this point also *Eram* street is on right and the *Bagh- e Eram* can be seen on the left side. If following the direction to the west getting to C<sub>3</sub> (N:29° 38' 15.1" E: 52° 31' 31.9") that have over look to the *Eram* Square, the *Eram* street is in the right side and *Bagh- e Eram* is on the left. C<sub>4</sub> (N:29° 38' 14.8" E: 52° 31' 27.7") is in south west towards the south. In this, point *Daneshjoo* Street and university buildings are in the right side and the *Bagh- e Eram* is in the west. If continuing towards the south the C<sub>5</sub> (N:29° 38' 09.9" E: 52° 31' 23.3") is at the end south west of *Bagh- e Eram*, in this point the *Bagh- e Eram* is in the left side and *Daneshjoo* Street is in the right side.

In order to connect the C<sub>5</sub> to C<sub>6</sub> change the direction to the east and getting to the C<sub>6</sub> with (N: 29° 38' 08.4" E: 52° 31' 24.4") coordination, this point is situated between the *Bagh- e Eram* and residential buildings, view from right side is to the residential buildings and from left side is to the *Bagh- e Eram*.

Also C<sub>7</sub> point (N:29° 38' 07.5" E: 52° 31' 25.2") and C<sub>8</sub>(N:29° 38' 06.6" E: 52° 31' 26.1"). That is at the same direction the same view.

C<sub>9</sub> point (N: 29 38 02.1 E: 52 31 32.3) is C<sub>8</sub> and at the south end of *Bagh- e Eram* that cause a view of the *Bagh- e Eram* and residential buildings.

C<sub>10</sub> (N:29° 38' 02.7" E: 52° 31' 32.9") point is situated in the north of previous point, and is the interval of *Bagh- e Eram* and the residential buildings. C<sub>11</sub> (N:29° 38' 00.7" E: 52° 31' 35.5") point is situated in east of C<sub>10</sub> point also in south of C<sub>1</sub> point and the end wall of *Bagh- e Eram* in the south. this point view's to the right is *Bagh- e Eram*, to the left is residential buildings and forward is alley No.17 of *Eram* Street.



**Description of Buffer Zone:**

Start from B1 (N: 29° 37' 45.9" E: 52° 32' 09.8") point in *Azadi* street and *Eram* boulevard cross and continue to west until B2 point (N:29° 37' 46 6", E:52° 32' 08.8") that is the *pur Eslami Hosseinieh* and charity institution of shiraz. By passing four block from B2 point .the B3 point (N: 29° 37' 47.7", E:52° 32' 06.8" ) is situated in corner of residential buildings. B4 (N: 29° 37' 4 8.6", E: 52° 32' 07.5") point is situated along the north of direction that is in south of *Allameh tabatabaee* school and north of residential buildings and B5 (N: 29° 37' 50.0", E: 52° 32' 05.2") is in west of B4, this point is at the end of 21 alley of *Azadei* Street that surrounded with residential buildings. B6 point (N: 29° 37' 53.3", E: 52° 32' 02.6") by continuing to the west will appear which is located in the north of health and cure of petroleum industry of Shiraz. B7 point (N: 29° 37' 54.1", E: 52° 32' 01.6") is opposite B6 in the other side of the north of health and cure of petroleum industry of Shiraz. B8 point (N: 29° 37' 55.3", E: 52° 31' 59.5") is in west of B7 and is at the end of alley number 6 of *Eram* street. B9 point (N: 29° 37' 56.9", E: 52° 31' 57.3") is in west of B8 that is adopted with the corner of one residential house that surrounded with four houses from four direction, this is a boundary of the *Bagh- e Eram* from west that extended the *Eram* till *Bagh-e Anari* then route is followed to B10 (N: 29° 38' 06.0", E: 52° 31' 47.2") which is located at corner of one residential house and end of *Khakshenasi* street. B11 point (N: 29° 38' 06.5", E: 52° 31' 45.6") is in west of b10 and is situated among the residential units. B12 point (N: 29° 38' 07.7", E: 52° 31' 44.1") is situated in alley *54-Erfan* that end of from north to the *Khakshenasi* St. and from south to the *Eram* Boulevard. B13 point (N: 29° 38' 08.5", E: 52° 31' 44.2") is situated in opposite of b12 at the other side of *Erfan* alley in the west side there is 16<sup>th</sup> street. B14 point (N: 29° 38' 10.8", E: 52° 31' 41.6") is in the corner of south west of *Shahid Beheshti* industrial school. If still follow the route to the west the B15 point will appear with (N: 29° 38' 13.4", E: 52° 31' 40.4") that is located in *Eram* 18St. in the south west of a residential unite. B16 point (N: 29° 38' 13.0", E: 52° 31' 39.2") is located in the south of b15 point and is at the corner of one residential house that access to *Eram* 20 street. B18 point (N: 29° 38' 15.7", E: 52° 31' 38.3") is in opposite of B17 point and situated in the West side of *Eram* 20 St. B19 point (N: 29° 38' 16.1", E: 52° 31' 37.7") is so near to the last point and located at the corner of one residential unit.

B20 point (N: 29° 38' 16.7", E: 52° 31' 36.6") appear if continuing the route to west that get to *Eram* 22 St. and is located at the corner of one residential unit. B21 point (N: 29° 38' 17.3" E: 52° 31' 36.3") is in opposite B20 point in the west side at the end of *Erfan* 66 Alley. in the West by passing through the *Jomhori Eslami* boulevard beside the *Shiraz* university management building area there is B22 point with (N: 29° 38' 20.0" E: 52° 31' 36.3") continue route to the North until getting the playground of broadcast building of far center.

B23 point (N:29° 38' 22.1" E: 52° 31' 40.6") is at the corner of this ground for connecting B23 to B24 the direction change to west until getting to B24 on the other corner Broadcast building. B25 (N: 29° 38' 31.6" E: 52° 31' 37.1") is on the North of B24 and is situated at the cross of two local street. B26 point (N: 29° 38' 36.8" E: 52° 31' 33.6") is at the East on the barren ground of *Shiraz* University. B27 (N: 29° 38' 35.5" E: 52° 31' 30.8"), B28 (N: 29° 38' 33.1 E: 52° 31' 25.4), B29 (N:29° 38' 32.5 E: 52° 31' 22.7), B30 (N:29° 38' 31.8 E: 52° 31' 21.1) is along B26 in South direction of barren ground of *Shiraz* university. B31 (N:29° 38' 28.9" E: 52° 31' 12.2"), B32 (N:29° 38' 28.5" E: 52° 31' 11.3"), B33 (N:29° 38' 27.6" E: 52° 31' 09.9"), B34 (N:29° 38' 26.0" E: 52° 31' 07.4") is also are in the *Shiraz University*, their east view are *Bâgh- ē- Eram* and their West view are *Shiraz University* dormitory and library buildings . B<sub>35</sub> (N:29° 38' 25.5" E: 52° 31' 06.6") is situated in university street and South of B34. by changing the direction to the East along the university street we get to B36 (N:29° 38' 20.9" E: 52° 31' 09.2"), B37 (N:29° 38' 16.9" E: 52° 31' 12.1"), B38 (N:29° 38' 14.9" E: 52° 31' 15.7"). B39 (N:29° 38' 10.9" E: 52° 31' 16.4") is at the east of B38 among the residential units of *Sepehr* complex .B40 is in the East of B<sub>39</sub> along a secondary street.

B41 (N:29° 38' 07.9" E: 52° 31' 19.3") is situated in South of B40 on the corner of alley 3 of *Daneshjoo* street and B<sub>42</sub> (N:29° 38' 07.0" E: 52° 31' 20.5") is in east of B40. B43 (N:29° 38' 08.0" E: 52° 31' 21.4") is in north of B42 along *Daneshjoo* boulevard .follow the direction to the East getting to B44 that is situated in alley number 4. B44 (N: 29° 38' 07.0 E: 52° 31' 23.1") which is on the north corner of Iran national oil company exploration management's ground. B46 (N: 29° 38' 01.1" E: 52° 31' 30.8") is in west of B45 (N: 29° 38' 06.4" E: 52° 31' 23.8") at the end of *Arghavan Dd.*end. B4<sub>5</sub> (N: 29° 38' 06.4" E: 52° 31' 23.8") is in east of B44. B47 (N: 29° 38' 00.9" E: 52° 31' 31.7") is in west of previous point in alley number 24 of west *Saheli* Street. if we pass through alley number 17 of *Bagh- e Eram* at the other side of this alley at the end of *Dd.* end we find B48 (N: 29° 37' 58.3 E: 52° 31' 34.5") among

residential units, B50 (N: 29° 37' 57.1" E: 52° 31' 34.8") is also in east of B49 (N: 29° 37' 57.6" E: 52° 31' 34.1") and among residential units. B51 (N: 29° 37' 55.9" E: 52° 31' 34.0") is in south of previous point and is at the corner of residential complex building.

B52 (N: 29° 37' 54.4" E: 52° 31' 36.6") is in east of B51 (N: 29° 37' 55.9" E: 52° 31' 34.0") is situated at the end of residential units of complex. B53 (29° 37' 58.0" E: 52° 31' 39.5") N: is in north side of last point and among residential units. B54 (N: 29° 38' 02.2" E: 52° 31' 43.9.0") is also in north side of B53 and is along alley 15 street. B55 (N: 29° 37' 58.9" E: 52° 31' 48.5") is in south west corner of *Haj Yusef Naserian* school. B56 (N: 29° 37' 57.3" E: 52° 31' 50.4") and B57 (N: 29° 37' 56.8" E: 52° 31' 49.9.0") are along number 13 alley of *Eram* street and in the east of B55. If continuing to the east we get to B58 (N: 29° 37' 55.1" E: 52° 31' 53.3") and B59 (N: 29° 37' 54.1 E: 52° 31' 52.6") which both are among residential units. B60 (N: 29° 37' 53.8" E: 52° 31' 54.0") is located in east of B59 and in front of the oil industry retired staff institute. B61 (N: 29° 37' 52.2" E: 52° 31' 56.5") and B62 (N: 29° 37' 52.0" E: 52° 31' 56.4") are in west of B60 and along number 7 alley of *Bagh- e Eram*. B63 (N: 29° 37' 51.6" E: 52° 31' 57.6") is in east of B62 and located in West of petrochemical industry engineering and designing Co. building. B64 (N: 29° 37' 49.8" E: 52° 31' 57.1") is in South of B63 and located in north corner of petrochemical industry engineering and designing Co. parking. B65 (N: 29° 37' 48.3" E: 52° 31' 59.8") and B66 (N: 29° 37' 47.3" E: 52° 31' 59.1") are in east of B64 and are along the number 3 alley of *Bagh- e Eram*. B67 (N: 29° 37' 45.9" E: 52° 32' 01.4") is in West of B66 and is situated in south east corner of local water organization building. B68 (N: 29° 37' 44.7" E: 52° 32' 03.5") is in west of B67 and along the number 1 alley Street the last point in this direction is b70 that is located in east of B69 (N: 29° 37' 41.8" E: 52° 32' 01.6") and south of B1 and B70 (N: 29° 37' 39.9" E: 52° 32' 04.9") at the corner of *Jahan Keshavarzan* building in the *Azadi* Street.

***Bagh-e Chehel Sotun;*****Description of Core Zone:**

Core zone boundary is beginning from C1 (N: 32° 39' 31.50" E: 51° 40' 24.29") to c8. C1 and C2 (N: 32° 39' 29.61" E: 51° 40' 14.24") are located in northern side along the *Sepah* street. C2 and C3 (N: 32° 39' 26.31" E: 51° 40' 25.69"), C3 and C4 (N: 32° 39' 25.98" E: 51° 40' 25.58"), C4 and C5 (N: 32° 39' 24.16" E: 51° 40' 23.37") are located in eastern side of the garden boundary that is crossing *Teymuri* gallery and Contemporary arts museum. C5 and C6 (N: 32° 39' 22.65" E: 51° 40' 17.44") are in Southern side of the garden. Along with garden and Isfahan governor building borderline. C6 and C7 (N: 32° 39' 15.60" E: 51° 40' 23.75"), C7 and C8 (N: 32° 39' 14.97" E: 51° 40' 27.31"), are located in western side of the *Bagh-e Chehel Sotun*, in the municipality neighboring.

**Description of Buffer Zone:**

The buffer zone line of *Bagh-e-Chehel Sotun* is part of the historical-cultural axis of Isfahan approved in the urban master plan of 1993.

This boundary starts from B1 (N: 32° 39' 32.77" E: 51° 40' 08.99") and ends in B15 (N: 32° 39' 26.51" E: 51° 40' 08.32") which its description is as follow:

Boundary of northern side: Distance between B1 and B2 (N: 32° 39' 34.00" E: 51° 40' 11.07") are located in across of *Chahar Bagh* Street. In north of *Aligholi beyk* street. Distance between B2 and B7 (N: 32° 39' 33.3" E: 51° 40' 21.62") includes *Sardar-e Jangal* alley and street and distance between B7 and B8 (N: 32° 39' 34.00" E: 51° 40' 21.46") includes *Telefonkhaneh* alley. Boundary of eastern side includes distance between B9 and B12 and distance between B9 (N: 32° 39' 34.57" E: 51° 40' 26.0") and B10 (N: 32° 39' 21.33" E: 51° 40' 29.61") is along the east side of *Ostandari* street. Distance between B10 and B11 (N: 32° 39' 18.60" E: 51° 40' 20.47") includes *Shahid Beheshtinejad* Street. Distance between B11 and B12 (N: 32° 39' 106.971 E: 51° 40' 19.181) is located in *Bagh-e Goldaste* street. southern side of boundary is along the distance between B12 and B14. Distance between B13 (N: 32° 39' 06.90" E: 51° 40' 17.80") and B14 (N: 32° 39' 08.37" E: 51° 40' 05.80") includes *Honar Bazaar*. West side of boundary from B14 at north joins to B1 along the *Chahar Bagh* Street. *Chahar Bagh-e Abasi* street is located in the distance between B14 and B15 (N: 32° 39' 26.51" E: 51° 40' 08.32"). Distance between B15 and B1 is along the *Chahar Bagh* Street.

***Bagh-e Fin;*****Description of Core and Buffer Zone:**

Core zone of the historical *Bagh-e Fin* has a total area of 75,029.25 square meters out of which 26,899 square meters belongs to the garden proper and *Soleymanieh* Spring. The length of *Fin Qanat* Spring from its structure as far as the *Mazhar* or emergence point of the spring in the highlands behind *Bagh-e Fin* is 730m.

*Bagh-e Fin* is surrounded by a narrow asphalted road, residential houses (houses and house-gardens), public facilities, gardens and other historical monuments. The limits of *Bagh-e Fin* core zone are as follows: from east and north east: *Amir Kabir* street and *Bagh-e Firuzi*, from north west: the car park of the municipality, *Seyyed* traditional restaurant (*Sofreh-Khaneh*) and residential houses, from west and south west: *Bagh-e Ahadiyat* which is now under the auspices of the Cultural Heritage Organization of Iran, *Soleymanieh* spring building and water dividers (*Lates*).

On the eastern and south eastern sides of the garden are seen historical house-gardens belonging to *Rahmatollah Naseri*, *Reza Eftekhari* and *Mahmud Arbabi* and on its eastern side stand *Eftekhari* or *Shahriari* mills (150), *Sardar* mill (73) and *Qazi* mill (74).

It must be noted that on the north western side of *Bagh-e Fin* core zone stands *Allah-yar Saleh* school (founded in 1963) which is under the possession of the ministry of education and at present has changed its function into the culture house of teachers but according to historical sources of the 19<sup>th</sup> century, it was once an open area. (Refer to *Ernest Holster* pictures of *Nasser al-Din Shah* era, 2003)

**Zone A:** This area ends from the north east in the historical garden of *Firuzan*, from the east in the limits of *Baghat* and *Mahallat* alley, from the north west in other gardens and agricultural fields, from the west in *Amir Kabir* Highway, from the south in barren or agricultural fields and finally from the south west in *Baghat* and *Mahallat* alley. Its entire area amounts to 233,501.47 square meters.

With a north east to southwest direction, this zone extends from *Bagh-e Firuzan* as far as *Amir Kabir* street on either side of *Amir Kabir* highway at the back of *Bagh-e Fin*.

The most important artificial structure along zone A is the irrigation network branching off *Soleymanieh* spring which in fact is the factor generating the residential fabric as well as gardens and plantations surrounding *Bagh-e Fin (Fin-e Kuchak)* In particular, two branches of the network are evident on either side of *Amir Kabir* Street inside this zone.

The ground slope from spring as far as *Kashan* plain has made possible the establishment of the network resulting in setting up several water mills which amount to ten water mills in zone A namely: *Qazi, Mehri, Hadj Soleymani, Mellati, Seifi, Qaleh Ahmadi, Zeraati, Bagheri* or *Sahebi* arranged in the above mentioned order on either side of *Amir Kabir* Street, the remainder of water mills are scattered inside of zone A.

One the most important historical monuments in the zone is the *Bagh-e Kohneh* (old) which had been built before the construction of *Bagh-e Fin* during the *Buyids* reign (please refer to the original report) Old garden came after *Bagh-e Firuzan* and *Qal-e Ahmadi* water mill and during the *Pahlavis* regime was bisected by *Amir Kabir* Street.

Other identified historical monuments along the axis are in this order:

*Bagh-e Firuzan* - *Mehri* watermill - *Qale-h Ahmadi* watermill - *Seyyedi* house - *Bagh-e Kohneh*- *Hadj Soleymani* watermill - *Zeraati* watermill - *Mehdian* house - *Sadji (Bagheri)* watermill - *Qazi* watermill - *Seifi (Hosein Mellati)* mill - *Sardar* watermill - *Shaterali* mosque - *Eftekhari* (or *Shahriari*) mill - *Hosein Mellati* mill- *Chekuni* house - *Mellati* house - *Eftekhari* house .

After the main side of *Amir Kabir* Street and the historical monuments along it is the historical fabric of the, *Fin-e Kuchak*. The initial nucleus of this structure, which is in the form of house-garden, has been formed along the route of *Soleymanieh* Spring water. After *Fin* fabric come the gardens area and then agricultural fields.

**Zone B:** Has an area of 1,818,575 square meters with a north east to southwest direction. Limits of the zone are from north east to the historical building of *Shahzadeh Ebrahim* (dating to the *Qajars* era and registered as a national monument) and from south to the border of local barren and agricultural fields. The zone begins on the main side of *Amir Kabir* Street extending towards the south and Southwest and concurrently diverting from this street line. In the end, reaching its largest expansion at the southern limits of *Bagh-e Fin* due to the presence of valuable monuments such as *Sefidab* Hill (dating back to the upper Paleolithic era

and registered as a national monument) Limits of the zone on this side reach barren and agricultural fields as well as alley lines and from south and south east end in the old *Qanat* along the core zone line and *Safavids* flood wall. It must be noted that the paved road is outside the zone but parallel to it.

From northwest and west, zone B line reaches the limits of gardens and plantations as well as the continuance of floodway and the highway line repeatedly. The most important artificial feature in the zone is *Amir Kabir* street which extends in a north east to southwest direction and then the *Amir Kabir* highway in its western section with a northwest to southeast direction.

***Bagh-e Abas Abad;*****Description of Core Zone:**

The boundary line of *Bagh-e Abas Abad* historical area start from C1 (X: 732091/2562 Y: 4061925.9795) .The C1, C2 line length is 441 m and its direction is to the north with angel of 166 do which cross a seasonal brook and covered with cypress tree. C2 (X: 732190.9593 Y: 4061925.8155) the C1, B3 line length is 661 m and the angle between C1 and horizontal line is 177°, it cross a seasonal brook in two point and covered with crowded forest trees .

C3( X: 732367.9490 Y:4061316.9250) the C3 C4 line length is 295 m and the angle between B3and horizontal line is 100° which cross the *Abas Abad* with a straight road that covered with crowded forest trees. C4 (X: 732662.1075 Y:4061347.7077) the C4,C5 line length is 821 m and the angle between C3 and horizontal line is 124° it start beside a seasonal brook and cross it in one point and covered with crowded forest trees. C5 ( X: 733056.7809 Y:4062067.6617) the C5,C6 line length is 547 m and the angle between C4and horizontal line is 298° it cross a seasonal brook in one point and covered with crowded forest trees.

C6 ( X: 733349.4427 Y:4061604/8485) the C6,C7line length is 563 m and the angle between C5 and horizontal line is 225.5° it start beside a seasonal brook and covered with crowded forest trees. C7 ( X: 733250.0000 Y:4061050.0000) the C7,C8 line length is 321321 m and the angle between C6and horizontal line is 242.5° it cross a seasonal brook in one point and covered with crowded forest trees. C8 ( X: 732943.0408 Y:4060953.3067) the C8 ,C9 line length is 175 m and the angle between C7and horizontal line is 66°it covered with crowded forest trees. C9 ( X: 733057.4003 Y:4060819.0000) the C9,C10 line length is 305 m and the angle between B8 and horizontal line is 233° it cross a seasonal brook in one point and covered with crowded forest trees. C10 ( X: 733005.3783Y:4060518.2260) the C10, C11 line length is 325 m and the angle between C9 and horizontal line is 266° it cross a seasonal brook in two points and covered with crowded forest trees. C11(X: 732681.5849 Y: 4060553.3571) the C11, C12line length is 522m and the angle between B10and horizontal line is 116° it covered with crowded forest trees. C12 ( X: 732399.2025 Y:4060118.0770) the C12,C13line length is 1411 m and the angle between B11and horizontal line is 170° it cross a seasonal brook in two points and covered with crowded forest trees also cut off access to *Abas Abad Road* in one point. B13 ( X: 731846.7578 Y:4058816.4012) ) the C13,C14line length is 834



m and the angle between C12 and horizontal line is  $215^\circ$  it cross a seasonal brook in two points and covered with crowded forest trees. C14(X:731135.1426 Y: 4058380.3320), the C15 line length is 407 m and the angle between C13 and horizontal line is  $265^\circ$  it cross a seasonal brook in one point and covered with crowded forest trees. C15( X: 730893.1302 Y:4058708/7709), C16 line length is 1050 m and the angle between C14 and horizontal line is  $226^\circ$  it cross a seasonal brook in two points and covered with crowded forest trees. C16(X: 731077.0346 Y: 4059743.3082) the C16, C17 line length is 1125 m and the angle between B15 and horizontal line is  $147^\circ$ . It is along the river that end to South of *Abas Abad* complex. C17(X: 731168.0136 Y: 4060864.7434), C17, C18 line length is 285 m and the angle between C16 and horizontal line is  $323^\circ$  it cross a seasonal brook in one point and covered with crowded forest trees. C18(X: 731319.2801 Y: 4060622.6451), C18, C19 line length is 747 m and the angle between C17 and horizontal line is  $49^\circ$  it cross a seasonal brook in two points and covered with crowded forest trees. C19( X: 731542.6937 Y:4061335.7538), C20 line length is 451 m and the angle between C18 and horizontal line is  $277^\circ$  it cross a seasonal brook in one point and covered with crowded forest trees also cross the minor beside *Abas Abad* complex road in two points. C20( X: 731955.4458 Y:4061142.7999) ) C21 line length is 693m and the angle between C19 and horizontal line is  $64^\circ$  it cross the seasonal brook in one point and covered with crowded forest trees also pass from near *Abas Abad* access road in one point. C21(X: 731933.5373 Y: 4061840.8382), C22 line length is 317 m and the angle between B20 and horizontal line is  $47^\circ$  it pass along *Abas Abad* access road and covered with cypress forest trees. C22 (X: 731707.6611 Y:4061617.6896) C23 line length is 529 m ,it pass along *Abas Abad* access road and covered with cypress forest trees also it cross the seasonal brook in one point. C23( X:731521.0674 Y:4062112.8301) C24 line length is 164m and the angle between C22 and horizontal line is  $222^\circ$  it cross the *Abas Abad* access road in one point and covered with cypress forest trees . C24( X: 731571.9842 Y:4062250.0000) ,B24B1 line length is 529 m and the angle between C23 and horizontal line is  $237^\circ$  it pass along *Abas Abad* palace area and covered with cypress forest trees.

**Description of Buffer Zone:**

The boundary line start from B1(X:731427/9065 Y:4063327/3160)(150 m North of *Al-Tappeh* school, beside the access road of flour factory) the B1 ,B2 direction is 2505 m ,start from B1 pass from south of *Al-Tappeh* village from *Sarou* and get to B2 in south east of *Tazeh Abad* village (950 m) with angel of 106 °. This rout passes through oranges trees.

B2 (X:733832/0590 Y:4062621/3990) is 1270 to B3 .B3, B4 length is 1337 m the border line of B2 and B 3 passing through *Pasand – Hezar Jarib* road and the one that ended to *Khalil Mahaleh* it crosses the seasonal brook in three points. B3 point is in tip-top and is in both side of valley, there are cypress tree in the direction B3 to B4.

B3(X:734310/2140 Y: 4061372/6705) is 1290 to B4. B3, B4 length is 3226 m. from B3 to B4 in distance of 1230 m we get to *Pasand – Hezar Jarib* road and from this point till 616 m getting to *Abas Abad* road along the road also we get to a seasonal brook in 450 m. The distances between B4 that is near crest in the slop and seasonal brook is 900 m. B3, B4 direction covered with forest trees.

B4 (X: 732720/2945 Y: 4058565/1135) is 1560 to B5. B4, B5 length is 1391 m. through the direction there is a seasonal brook in distance of 530 m, from there the borderline get to the valley from a slop and come to point B5 from the bottom of valley. The B4 direction is covered with maple tree, fig tree. B5 (X: 731612/6509 Y:4057722/7922) is 122 0to L6. B5, B6 length is 1578 m. from B5 to B6 to north west the road pass the seasonal brook in three points. This direction is covered with maple, hornbeam, fig tree. B6 (X: 730147/9560 Y: 4058263/7905) is 1850 to B7. B6, B7 length is 2036 m. from B6 to B7 to north the road pass the seasonal brook in three point's .This direction is covered with maple, hornbeam, fig tree.

B7 (X: 730224/9630 Y: 4060298/7030) is 1710 to B8. B6, B7 length is 1984m. From L7 to B8 the road passes the seasonal brook in two points. This direction is covered with maple, hornbeam, fig tree. B8 (X: 730589/0952 Y:4062249/1661) is 1520 to B1. B8, B1length is 1366m. From B8 to B1 in distance of 545 m pass from edge of access road of *Abas Abad* and in 820 m from B8 cross the *Abas Abad Road*. From this point until B1 is 546m this direction is covered with maple, hornbeam, fig, cypress &... trees, gardens and farmland and part of village.

***Bagh-e Shahzadeh;*****Description of Core Zone:**

C1 (N: 30° 1' 30.00" E: 57° 17' 2 14") is located in the north east corner of garden. Along the garden wall to northwest wards reach to C2 (N: 30° 1' 31.20" E: 57° 17' 2 55"). along the outer pool edge to north east wards reach to C3 (N: 30° 1' 33.98" E : 57° 17' 2. 57"). From the C3 along the width of outer pool in north east wards reach to C4 (N: 30° 1' 34.38" E: 57° 17' 1. 82"). Along the western side of the outer pool to southwest wards reach to C5 (N: 30° 1' 31.65" E: 57° 16' 59. 69"). along the wall garden to the north corner getting to C6 (N: 30° 1' 31.65" E: 57° 16' 59 .69"). From hear the wall garden is border line and it continue up to end of wall C7 (N: 30° 01' 21.78" E: 57° 16' 49 .90") is in north west and has a view to afield. C8 (N: 30° 1' 19.91" E: 57° 16' 53 .18") is along the wall to the east with direction to C1 .the water axis of seasonal *Tirgaran* River is between the C7 and C8 joint line.

**Description of Buffer Zone:**

Buffer zone boundary in south part is limited to the crest line of *Jupar Mountain* that is 12.5 km far from back wall of the garden which is specified with B6-B7 line. The North boundary is 2 km far from the body of garden. The east side of the boundary is specified with B1-B7 line which is defined 2 kilometers distance from path of *Tigarán* river to east wards parallel to it. According to east side, west side of the boundary is also defined about 2 kilometer distance from path of *Tigarán* river to west wards parallel to its path which is specified with B5-B6 line. Also other specifications related to spots are as follows:

B1 (N: 30° 1' 32.98" E: 57° 18' 50 .73") located in path of historical road of *Mahan-Bam*. B2 (N: 30° 2' 15.31" E: 57° 17' 58. 64") is in intersection point of ancient route of *Mahan- Bagh-e Shazdeh* and ancient route of *Mahan- Bam*. B3 (N: 30° 1' 55.52" E: 57° 17' 26 .99") is describe along the green new route of *Mahan- Bam* and ancient route of *Mahan- Bagh-e Shazdeh* .B4 (N: 30° 2' 1.34" E: 57° 17' 25 .19") is nearest point from the body of separation line of possessions on the master plan of the city to the previous point. B5 ( N: 30° 2' 26.02" E: 57° 16' 15 .04") with a specific radiuses from the green belt of *Mahan- Bam* (according to region's topographic lines and also separation line of possessions on the master plan of the city) and joining it with North border line. B6 (N: 29° 55' 6.76" E: 57° 13' 57. 78") and B7 (N: 29° 53' 52.67" E: 57° 15' 51. 05") are located on the line and top of *Jupar Mountain*.

***Bagh-e Dolat Abad;*****Description of Core Zone:**

C1(N:31<sup>0</sup> 54' 297" E: 54<sup>0</sup> 21' 167") is located in north west of *Be'sat* square and south west of *Enghelab* street at beginning of *Shirgholami* alley, this point also can be seen in south east of *Bagh-e Dolat Abad* at the beginning of principal alley of *Chahar Menar*. The tomb of *Peer Alam* is near this point. C1- C2 line is passing through the *Shirgholami* alley, and residential blocks. C2 (N: 31<sup>0</sup> 54' 291" E:54<sup>0</sup> 21' 172") is in the intersection of *Shirgholami* alley with *Ershad* alley. The south east boundary of *Bagh-e Dolat Abad* is connect to *Ershad* alley from north and the C2 - C3 line is passing through the *Gozar Shir Gholami* and the residential blocks of this part. C3 (N: 31<sup>0</sup> 54' 270" E:54<sup>0</sup> 21' 155") is also situated in the *Shir Gholami* alley and *Bid Abad* alley that is the south east boundary of *Bagh-e Dolat Abad* is that connected to the *Ershad* alley from north. The C3- C4 line is along the *Shir Gholami* alley.

C4 (N: 31<sup>0</sup> 54' 244" E:54<sup>0</sup> 21' 196" ) is in the *Shir Gholami* alley that is the main alley in the *Chahar Menar*. C5 (N: 31<sup>0</sup> 54' 203" E:54<sup>0</sup> 21' 160") is at the corner of *Chahar Menar* alley and get to *Shir Gholami* at the intersection which is in the south boundary of ancient *Malaktieh Hosseinieh*. The ancient *Chahar Menar Carvansara* is in the south boundary of this point that is approximately at the center of this part and in the south boundary is the tomb of *Seyed Shams-al-din* who born in 8 century. The C5- C6 line is passing through the *Shir Gholami* street and *Chahar Menar* seasonal river and residential blocks. C6 (N: 31<sup>0</sup> 54' 143" E:54<sup>0</sup> 21' 238") is on the bridge of *Chahar Menar*. This river is passing from west south side of *Bagh-e Dolat Abad*. In the north east boundary of this point is *Ab Anbar* of the *Karvansara*. The C6-C7 line is the last part of *Shir Gholami* alley. C7 (N:31<sup>0</sup> 54' 129" E:54<sup>0</sup> 21' 256") is situated in ax of *Shir Gholami* in the intersection with *Iran Shahr* street that is in South boundary of *Bagh-e Dolat Abad*. From this intersection, the direction changes to the north west. C8 (N: 31<sup>0</sup> 54' 064" E:54<sup>0</sup> 21' 190") is situated in ax of *Amrollahi* alley in the intersection with *Iran Shahr* street. From this point of the southwest boundary and through this alley, could access to *Bagh-e Dolat Abad*. C9 (N: 31<sup>0</sup> 54' 061" E:54<sup>0</sup> 21' 158") is situated in ax of 47<sup>th</sup> alley in the intersection with *Iran Shahr* street and *Moallem* street in its South frontline, which make a crossroad. This point is in South frontline that access to 47<sup>th</sup> alley. For connecting C9 to C10 the direction changes to the north.

C10 (N: 31° 54' 093"N: 54° 21' 141") is situated in ax of river in *Dolat Abad* boulevard that is in north west boundary of *Bagh* and from this point through the *Dolat Abad* boulevard getting to *Bagh* and then access to miner entrance of *Bagh* through the alley beside the river .in order to connect C10 to C11 the direction should continue along the river after passing the *Dolat Abadis* boulevard. C11(N: 31° 54' 148" E:54° 21' 077") is in the continue of river rout on the ax of river near *Bagh* in north of *Dolat Abad* boulevard which is in north west frontline of *Bagh*. this direction is along the seasonal river . C12 (N: 31° 54' 198" E:54° 21' 980") is in the continue of river rout on the ax of *Hafez* alley in west intersection and *Vahdat* alley in east side. This point is in north west side of the *Bagh*. C13 (N: 31° 54' 202" E: 54° 21' 9.83")is by continuing the direction from C12 in the river rout on the intersection of *Vahavi* alley in the north west of the *Bagh*. C14 (N: 31° 54' 268" E: 54° 21' 0.45") this point is in the river rout on the ax of north west of *Bagh-e Dolat Abad* among the *Seyed* area. *Abanbar Seyed Sahra* is on West boundary and on north frontline *Seyed Sahra* tomb can be seen. This point is the intersection between the near river alley and *Seyed Sahra* alley. Along the previous path to north east wards the line reaches to C15. C15 (N: 31° 54' 275"E: 54° 21' 070") is among the *Sout-e Davoodi* alley in the north west of the *Bagh*, the farm is located in the south boundary, so the *Bagh* frontage is completely distinctive. C16 (N: 31° 54' 626" E: 54° 20' 779") is situated in south alley of *Sout-e- Davoodi* in the intersection of this alley with *Enghelab* street in north frontline of *Bagh-e Dolat Abad* .by continuing this point to the south east of *Bagh* the line reaches to C17 among the *Kheradmand* alley.C17 (N: 31° 54' 558" E: 54° 20' 899") is in middle line of *Kheradmand* alley on the intersection of *Enghelab* street and *Mohammad Reza Jafary* alley. In north part of this point the *Ghandehary Abanbar* is visible. C18 (N: 31° 54' 363" E: 54° 20' 227") is in middle of the *Dolat Abadi* crossroad. The intersection between *Enghelab* street in north and *Navab Safavi* boulevard in east *Dolat Abadi* boulevard in west, which is in the north of the *Bagh* and access to *Bagh* through *Dolat Abadi* boulevard. C19 (N: 31° 54' 315" E: 54° 20' 288") is on the intersection of *Enghelab* street and *Badr* alley in east boundary of *Bagh*, *Badr* alley access to *Bagh-e Dolat Abadi* too. C20 (N: 31° 54' 271" E: 54° 21' 344") is on the intersection of street and *Shahid Moradi Alley*, the middle of this alley is the East frontline of *Bagh*. C21 (N: 31° 54' 202" E: 54° 21' 430") is on the intersection of *Enghelab* street.

**Description of Buffer Zone:**

B1(N: 31' 54' 37.75"E: 54' 20' 47.16") is the start point that is located in intersection of the north east alley of *Bagh* in south frontline of *Dolat Abadi* boulevard that now is barren land.

B2 (N: 31' 54' 24.14" E: 54' 20' 36.53") is in intersection of the north west of *Bagh* along the *Masjed Soufi* alley in *Dolat Abadi* boulevard in south frontline. B3 (N: 31' 54' 10.95" E: 54'

20' 56.05") is the limit of north east frontline side that now is barren land. The B3,B4 line passing from north east corner of this land. B4 (N: 31' 54' 54.52"E: 54' 21" 12.43") is on the north east frontline of *Dolat Abadi Bagh*, *Dolat Abadi Abanbar* is at the end of this side in north frontline stick to the *Masjed Soufi*. Now for getting to B5 change the direction to west.

B5 (N: 31' 54' 58.29" E: 54' 20' 18.14") is situated in east frontline of *Bagh*, stick to east side of it, beside the entrance near the Abanbar. B6 is in east south of B5 and pass through the residential blocks and wall of *Bagh*. B6 (N: 31' 54' 0.37" E: 54' 21" 23.63") is situated in south frontline of east side of *Bagh*, beside the entrance of this part.

B7 (N: 31' 54' 0.87" E: 54' 21" 28.03") is in corner of west and south side of *Bagh*, in north east of *Badgir* building and is the last determined point in north east side of the *Bagh*. For getting to B8 the direction changes to south west. B8 (N: 31' 54' 8.52" E: 54' 21" 31.20") is situated on the south west side of the *Bagh* and southwest frontline of *Badgir* building. By following to the west B9 (

31' 54' 21.16 E: 54' 21" 14.82) is in southwest frontline of *Bagh* and in the joint point of south side and west side. B10 (N: 31' 54' 29.76" E: 54' 21" 1.45') is situated in west frontline beside the main entrance of this side.

***Bagh-e Pahlavanpur;*****Description of Core Zone:**

C1 (N: 31° 33' 58.4" E: 54° 26' 45.1") It is located in the western side of garden next to the arrival tower, building can be seen in this point. C2 (N: 31° 33' 56.2" E: 54° 26' 42.2") It is located at the end of building next to the arrival tower. southern side of garden and rooms can be seen in this point. C3 (N: 31° 33' 57.8" E: 54° 26' 38.3") It is one of the western side corner of care taking building changed to residential units. C4 (N: 31° 33' 59.1" E: 54° 26' 36.5") this point located opposite of C3 in other side of care taking building. Trees row can be seen in this point and can be joined to alley next to the western side of garden. C5 (N: 31° 33' 62.9" E: 54° 26' 40.0") It is one of the secondary entrance of garden that is located in the western side of garden and building, it can be joined to alleys around the garden. C6 (N: 31° 33' 68.3" E: 54° 26' 46.6") It is northern corner of garden is separated the clay-wall and back part. The main elevation can be seen in this point. C7 (N: 31° 33' 72.8" E: 54° 26' 49.5") It is the last part of northern side of garden ends in garden in one hand and neighboring watermill on the other hand. C8 (N: 31° 33' 71.5" E: 54° 26' 51.6") It is one of the *Mirzanasrollah* water mill corners that is based on *Hassan Abad* well in the northern side of garden. C9 (N: 31° 33' 70.6" E: 54° 26' 52.4") It is one of the arrival routes to the garden and clay-wall that can be joined to northern side of garden. C10 (N: 31° 33' 68.9" E: 54° 26' 54.6") It is the east north corner that ends in garden in one hand and main street on the other hand. C11 (N: 31° 33' 64.8" E: 54° 26' 50.4") It is east north of garden that toilets are settled. This point can be joined to pavilion in one hand and arrival tower on the other hand.

**Description of Buffer Zone:**

B1(N:31°33'81.9" E:54° 26' 48.8") It is located in northern side of the garden arena and joins to *Bagh asa parish* in the north and *Arab parish* in the west and *Hussein Abad* street ends in *Bagh Pahlevanpur* in the east south. B2 (N:31°33'77.4" E:54°26'54.7") It is along the northern boundary of garden ends in *Bagh Tabasi* next to the *Bagh Pahlevanpur*, it is along the route ends in *Hussein Abad* opposite the garden. B3 (N:31°33'74.8" E:54°26'58.9") It is located in east north side of garden and joins to *Mirzanasrollah* mill and in the rout ends in *Hussein Abad street* in front of the *Bagh Pahlevanpur* and in on the other side joins to center of *Bagh-e asa Parish*. B4 (N:31°33'692" E:54°26'64.9") It is along the B3 point and located in the north east side of garden. B5 (N: 31°33'659" E: 54° 26'71.1") It is located in the B1.2.3 routs and *Hussein Abad* street junction ends in *Bagh Pahlevanpur*. Tower of garden can be seen in this point. B6 (N: 31°33'64.9" E: 54°26'722") It is located In the eastern side of the garden arena, in one of the *Zareien* river and town that ends in *Bagh Pahlevanpur*. B7 (N: 31°33'606" E: 54°26'653") It is located along the B6 in the same view with B8 (N: 31°33'538" E: 54°26'551") at the beginning of the alley ends in *Zare'in* town and east South side of the garden, it is possible to meet the garden crossing the bridge. Tower and neighboring buildings can be seen in this point. B9 (N:31°33'50.5" E:54°26'49.2") It is located along the B8 in the same view and it is one of the point in the middle of town, river and garden. B10 (N: 31°33'41.5" E: 54°26' 35") It is located in the corner of street ends in *Zare'in* town and *Tohid* square next to the *Anjirak* watermill in the southern side of the garden. crossing the point to the North and *Hussein Abad* three junction can be joined to garden. B11(N:31°33'422" E:54°26'30.9") It is located in the southern side of *Bagh Pahlevanpur* next to the *Anjiral* watermill and *Tohid* square. This point ends in *Hussein Abad* street and garden. In this point greenway along the *Hussein Abad* well can be seen.

B12 (N: 31°33'43.2" E: 54°26'28.4") It is located in the corner of *Tohid* square and *Shahid Fahmideh* street near the B11 point. B13 (N:31°34'50.9" E:54°26'20.0") It is located in the south west of garden arena at the beginning of the *Arab* quarter and *Fahmideh* strret siding. it can be joined the garden in various routes. it is along the B12.11 route. B14 (N: 31°33'56.5" E: 54°26'180") It is located in south west of garden arena in the main crossing of *Arab* quarter. It can be joining to garden from opposite garden. B15 (N:31°33'58.9" E: 54°26'219") It is located along the B14 opposite alley and joins to B16 that joins to the



southwest side of garden. B16 (N: 31°33'62.0" E: 54°26'25.2") It is located in the alleys ends in southern side of garden and along the B14 and B15 routes. B17 (N: 31°33'61.6" E:54°26'26.1") It is located along the B14.15.16 routes that is joined to southern side of garden and on the other side joins to *Bagh-e asa Parish*. B18 (N:31°33'62.5" E:54°26'26.6") It is located along the B17 in south west side of garden. This point joins to garden in the east and *Bagh asa Parish* in the west. B19 (N:31°33'64.4" E:54°26'26.3") It is located near the B18. B20 (N:31°33'65.8" E:54°26'29.5") It is located along the B19 and it can be seen crossing the water canal and joins to alley in the south west of garden. B21 (N:31°33'64.2" E:54°26'31.2") It is located in the short distance to B20. B22 (N:31°33'64.5" E:54°26'32.5") It is located in the beginning of a siding that to west south side of the garden in one hand and on the other hand to the western arrival opposite the building of garden crossing the B23 point.

B23 (N: 31°33'66.6" E: 54°26'34.5") It is located in west side of the garden. B24 (N: 31°33'67.1" E: 54°26' 34.5") It is located in the south western side of garden along the B1. It can be joined to *Mirzanasrollah* watermill in the northern side of garden and greenway of garden can be seen in this point.

***Bagh-e Akbariyeh;*****Description of Core Zone:**

C1(N:32° 51'10.2" E:59° 13' 37.7") is the starting point of *Bagh-e Akbariyeh* boundary and *Emarat-e Akbariyeh*, this point is in west side of *Bagh* and beside the enclosure, there is another *Bagh* near the northeast entrance of *Bagh*, that surrounding with pine tree. The west part of the *Emarat* can be seen from this point. C2 (N: 32° 51'08.9" E: 59° 13' 37.7") is in front of secondary entrance. The related traffic of cultural heritage organization and museum is through this point. *Emam-e Reza* library building, on the entrance, museum square and *Mashahir* park is seen through this point. C3 (N: 32° 51' 07.2" E: 59° 13' 37.7") is in north, south direction, near C2, and behind the service parts of *Bagh-e Akbariyeh*. In west east direction and among the village area, behind the C4 with (N: 32° 51' 07" E: 59° 13' 39.3") coordination. C5 (N: 32° 51'05.3" E: 59° 13' 39.1") is situated in north of *Bagh* and in the entrance part of back yard (*Andarooni- Chaikhaneh*) *Bagh*. The original landscape of *Emarat-e Akbariyeh* can be seen from this point and the main road of the village pass from this point. C6 (E: 32° 51' 05.5" N: 59° 13' 40.6"), C7 (E: 32° 51' 05.3" N: 59° 13' 40.6"), C8 (E: 32° 51' 05.2" N: 59° 13' 41.9"), C9 (E: 32° 51' 04.9 "N: 59° 13' 41.9"), C10 (E: 32° 51' 05.1" N: 59° 13' 41.9'), points are in north side of *Bagh* and *Emarat-e Akbariyeh* and are behind the backyard building of *Bagh*. The area that surrounded with these points is the *Akbariyeh* village area. Added C10 is the entrance of stable. What can be seen from these points are the back parts of principal *Emarat-e Akbariyeh*. C11 (N: 32° 51' 05.1" E: 59° 13' 44.0") is in east of *Bagh* and *Emarat-e Akbariyeh* and the surrounded area is included of a narrow yard that ended to front of *Emarat*. The library building and the wild life museum can be seen from this point. C12 (N: 32° 51' 07.9" E: 59° 13' 42.8") is in west – east direction and near to C11. The starting point of the *Bagh* area is in southeast of this point. In addition, a beautiful perspective of *Bagh* is seen from this point. C13 (N: 32° 51' 15.1" E: 59° 13' 43.8") is in north east side of the *Bagh* enclosure and the *Khayam* street passing near it. C14 (N: 32° 51' 15.2" E: 59° 13' 40.1") is in north west of *Bagh* beside the enclosure. The primer entrance of *Bagh* that is in the principle ax and front of *Emarat- Bagh* is between C13, C14 .while the *Oghaf* building is near to this point. C15 (N: 32° 51' 10.0" E: 59° 13' 39.4") is situated in

west side near C1 and *Emam-e Reza* library. The east enclosure of *Bagh* passes from this point.

**Description of Buffer Zone:**

B1 (N:32° 51' 14.6" E:59° 13' 40:0") the beginning of the buffer zone of the garden and *Akbariyeh* Building is from a spot opposite the building of general administration of endowment and charity affairs at the intersection of *Moallem* and *Khayyam* streets where a spectacle of tall trees of *Bagh-e Akbariyeh* can be viewed. B2 (N: 32° 51' 16.8" E: 59° 13' 45.8") this spot is located on *Moallem* street, East of museum square and opposite the secondary garden entrance and present administrative entrance. Here, some parts of the entrance frontispiece, southern section of the main building and a view of trees can be seen. Between this point and the entrance, which includes a park constructed by the municipality called *Mashaahir* park, there exists a walkway by passing the garden. The distance between B1 and B2 is 250m. B3 (N:32° 51' 08.8" E: 59° 13' 34.9") This spot is on *Moallem* street at the end of *Mashaahir* park at the same direction of point B2. The viewable spectacle includes parts of the building and the garden as well as a number of old houses of *Akbariyeh* village located behind the building. The distance between B2 and B3 is 98m. B4 (N:32° 51' 05.5" E:59° 13' 34.9") This spot is located at the middle of the walkway fronting the garden (Parallel to *Moallem* street) surrounded by a large number of pine trees. Arrival into the village is via its vertical route. Some sections of the building as well as the old face of *Akbariyeh* village are the scenery to be seen. The distance between B3 and B4 is 260 m.

B5 (N: 32° 51' 05.1" E: 59° 13' 37.2") this point is located in the same direction as point B4 at the end of the walkway fronting the garden. It can be said that the walkway is part of the belt axis around *Akbariyeh* village situated in the middle of pine trees outside the garden. The point overlooks 15<sup>th</sup> *Khordad* street. From its back, views of the central building and low rural homes made of *Kahgel* are seen. The distance between B4 and B5 is 120 m. B6 (N:32° 51' 01.4" E:59° 13' 38.3") and B7 (N: 32° 51' 01.1" E:59° 13' 43.9") Both spots are at the same direction south of *Valiasr* square, at the intersection of 15<sup>th</sup> *Khordad* street with *Ghaffari* street. Points to be seen from here are: the general landscape of the village including residential homes with domed and *Kahgel* roofs as well as a view of *Bagh-e Akbariyeh* trees. The distance between B5 and B6 is 155m and the distance between B6 and B7 is 160m. B8

(N:32° 51' 05.3" E:59° 13' 45.5") & B9( N:32° 51' 07.1" N: 59° 13' 45.7") are aligned with point B7 at a walkway parallel to *Ghaffari* street. The walkway is located north of the village (belt axis) from which access is possible into *Akbaryeh* village. Views to be seen from these points are the village fabric, *Akbaryeh* building and the green landscape of garden pine trees. The distance between B7 and B8 is 250m and the distance between B8 and B9 is 60m. B10 (N:32° 51' 16.2" E: 59° 13' 36.2") is at the intersection of the northern village walkway and *Khayyam* Street. Entrance frontispiece west of the garden, its enclosure as well as its evergreen pine trees can be seen from this point. The distance between B9 and B10 is 250m. B11(N:32° 51'16" E:59° 13' 45.2") is located exactly in north direction of the garden in northern side of *Khayam* street.

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Reference: 882/50/2797  
Date: 2010 November 8

*In the name of God*

Monday, November 8, 2010

Ms. Regina Durighello  
Director  
World Heritage Unit  
ICOMOS

**Subject: Additional Information on the Persian Garden World  
Heritage List 2011**

**Dear Ms. Durighello,**

Thank you very much for your letter of GB/MA 1372 dated 22 September 2010 concerning additional information with regards to the nomination dossier of **The Persian Garden** proposed to be enlisted in the World Heritage sites. Please attached find a detailed report concerning the enquiries made. However I would like to briefly react on the questions also here as the followings:

1. As for the first question please note that, all nine nominated gardens have been selected as the best examples showing the gradual evolution of the Persian Garden in design (layout) as well as in landscape, from the earliest period to the present time. Clearly aside these nine gardens, there are several other Persian gardens in Iran enjoying separate cultural and historical values. However, as stated before these selected nine garden, although each has its own unique value, but all of them together represent the OUV of the Persian Garden and the continuation of this unique tradition in Iran and indeed in other parts of the World where the Persian gardens, can be found.

2. & 4. In response to the second and fourth inquiries which are closely related to each other, please kindly refer to the annexed detailed report where apart from answering to the questions 2 and 4, the role of each selected garden in representing the OUV of the Persian Garden is explained. Despite the fact that each nominated garden has clearly its own unique value in an independent way, it is also to be noted that it is only when each garden is connected to the others it would be possible to express the overall values such as: flexibility and continuance of the Persian Garden pattern, human creative ingenuity, authenticity and dynamism of the design, developing technology and landscape, comprehensiveness of the pattern from a functional, traditional and cultural point of view, fulfilling requirements of the time and finally, and effectiveness upon regional development. In this way, nominated gardens show the real function of the Persian Garden in relation with OUV only in a chain-like, continuous and collective manner.
  
3. Regarding the third issue about the sites which are already inscribed or are comprised in properties inscribed in the world heritage list, it should be mentioned that, the core and buffer zones proposed for the Pasargadae Garden are located within the landscape zone of the Pasargadae Complex, which has already been inscribed in the world heritage List. According to the researches conducted and in particular the evidence found from the geophysical investigations, the values of Pasargadae Garden have a direct relationship with the buildings and landscape of Pasargadae core zone. Therefore, previously designated world heritage core and buffer zones have also been selected for the conservation and protection of the OUV of the Persian Garden.
  
5. In response to the fifth item please note that, defining of the measures related to the nine nominated gardens has been implemented in such a manner that each core zone comprises those elements and structures that not only fully express the outstanding universal values (OUV) mentioned in the nomination dossier but also respect various aspects of functional, structural and visual integrity and authenticity in the long term. Additionally, the area contained in each buffer zone serves as a prelude for introducing garden values, preventing potential threats and protecting elements representing the outstanding universal values.



6. Regarding the sixth query, there are various regulations and laws at the national and local levels for governing the protection of the enlisted monuments in the national heritage list of Iran as well as the green spaces and natural resources. Ratification of some of these regulations and laws dates back to many decades ago. Fortunately, all of the nine proposed gardens are inscribed in the national list due to their inter-related and collective significance in providing the concept and values of the Persian Garden. Moreover, the status of core and buffer zones is highly regarded in the above mentioned regulations. For example, article 560 of the Islamic Punishment Law has explicitly made it compulsory to observe such regulations. In addition, special forces (Protection Guards) have been established to enforce these regulations and measures for protecting national monuments. These units operate under the supervision of the central administration of the Iranian Cultural Heritage, Handicrafts and Tourism Organization (ICHHTO) and its provincial branches collaborating with the provincial and local bases without usual bureaucracies.
7. In response to this question, you will find in the annexed report, the detailed explanation of the process through which the plans and regulations of the core and buffer zone of the properties and historical sites are binding after being included in the master urban or regional plans. The role of the ICHHTO in the final approval of development plans is also described. The process of the inclusion of the regulations regarding the core and buffer zones of historical sites in urban plans is briefly depicted as well. Furthermore, the role of ICHHTO in approving the urban plans is also explained. Moreover, a brief description of the process of integrating measures concerning core and buffer zones of the heritage properties into the master plans is provided. It is important that such measures be integrated skillfully into the master plans of the towns and villages so that all involved organizations and authorities as well as local people will be obliged in respecting them.
8. As for the final question, first, the general framework for the management of the proposed property based on the principles of the uniform observation of the conservation of the nine gardens as one integrated property have been described in details. Then the objectives and priorities of the conservation programs in each garden regarding their features and values and also the effective factors have been listed. Establishing provincial and national bases of the Persian Garden, setting up the technical and steering committees under the auspices of the national base of the Persian Garden consisting of experts from various fields coming from provincial bases as well as holding regular meetings with the participation of the managers and experts from the nominated gardens have permitted an integrated management and conservation of them to be enforced as one single property.

Finally, let me thank you once again for your accomplishments in the field of cultural heritage.

Please do not hesitate to write to me should further information be needed.

Sincerely



Masoud Alavian Sadr  
Deputy for Cultural Heritage and the secretary for the Iran's World Heritage  
Iranian Cultural Heritage Handicrafts and Tourism Organization

Copy to:

- H. E. Mohammad Reza Majidi, the Ambassador and Permanent Delegate of the Islamic Republic of Iran to UNESCO, Paris
- Mr. Yazdani, Head of the Department of International Affairs, Iranian Cultural Heritage, Handicrafts, and Tourism Organization, Tehran
- Dr. M.H Talebian, Head of Department for Preparation of World Heritage Nomination Dossiers, Tehran.

Annex

Detailed report,

**The Persian garden (Iran)**  
**Additional information**

8<sup>th</sup> October 2010

1. Further justification of the serial approach to the nomination, or description of the reasons underlying the choice of nominating nine different gardens as representative of the Persian Garden

As it has been mentioned in the dossier, nomination of The Persian Garden includes nine selected gardens (Bagh), representing different types of gardens from different climates in Iran. They provide evidence of the development of the Persian Garden from the Achaemenian period until the present.

The prototype of the Persian garden was first created in Pasargadae Garden (over 2500 years ago), developed over the course of time, was transferred to other lands, and still continues to live; thus, it represents an ongoing, creative, unique phenomenon in the light of application of knowledge, technology, art, and spirituality, which has interestingly evolved through the history, preserving its original authenticity and integrity. Growing in a variety of climates, the Persian garden has developed and grown flexible and adaptable to such climates. In order to express such a phenomenon and state the outstanding universal value (OUV) of the Persian garden, it was essential to choose those unique examples of Persian garden in each region which have functioned as the pattern for further development of gardens in their region, and altogether depict the notion of Persian garden.

Creativity in various fields, including the overall pattern of the garden, a scope of architectural features (setting and design of the Kushk (pavilion), Gateway building, service and residential structures, and Karts (patching) pattern of the garden), irrigation technologies (qanats, rivers, water springs), decorative and functional use of water courses, pools, and fountains, and the development pattern in various landscapes like desert or forest are the criteria taken into consideration in choosing and nominating the nine gardens. Other ongoing notions of the Persian garden such as arts, poetry and literature, music and relevant arts and crafts, traditions, culture and various social, historical, and cultural aspects, paralleled to considering various types of Persian garden in terms of function, setting, influence on the development and flourishing of the cities in which they are located or their surrounding areas (extremely or fairly steep lands, even desert or forest lands), various types of umbrageous or fructiferous trees (fruit trees vs. other types of garden trees), and other aspects concerning the Persian garden such as the traditional experiences of gardening,

and their extraordinary continuation through to date are also among the reasons for nomination of the nine gardens under consideration, which clearly depict the evolution of the Persian garden in its historical and conceptual, and the grounds of its development in various parts of Iran. The role of each of the gardens in highlighting the OUV of the Persian garden is elaborated in the answer to question number two.

*Answer to questions 2 and 4:*

2. Further explanation on how the nine chosen sites have been selected, or, in other words, how each of them relates to the overall Outstanding Universal Value proposed for the serial nominated property.

4. Further explain whether and how the separate components of the property are functionally linked and how each component contributes to the expression of the proposed outstanding universal value of the serial nominated property.

As mentioned in reply to question number 1, the nine nominated gardens are selected following comprehensive works of research all around Iran in order to represent the OUV of the Persian garden and to be nominated for inscription in the world heritage list. Historical chronology, from the Achaemenian era to date, ecological diversity of the land of Iran which ranges from arid deserts to arable forests, and the evolution of Persian gardens have been among the highlights of the process of selecting the nine gardens. Yet another significant point is that each of the gardens nominated are of key role in providing models for creation and development of other gardens in the area surrounding them.

According to the documents obtained from many historians and tourists, the nine gardens have always been in the center of attention as the brilliant examples of the Persian garden.

The prototype of gardens with cultural concepts takes place in Pasargadae Garden. In fact, the Persian garden or Paradise [Pardis] was initially created there, and its patterns and models developed through the course of history in close relation with mundane and heavenly concepts, based on the time, place, beliefs, and cultural traditions. More to the point, among all the gardens selected, Pasargadae garden represents the technology of using water from the river in its magnificent stone pools and water courses which transfers the significance of geometrical display of water together with the representation of the beautiful sight of palaces and Kushks (pavilions) to the next periods of time.

Along its path to perfection, the prototype of Persian garden has provided the context for creation of the prosperous gardens in Shiraz, one of which being Bagh-e Eram garden. Being one of the oldest of the type in Shiraz, Bagh-e Eram encompasses the developments and changes of various historical periods from the Seljukids (12th century) to the Zands (17th century), and has functioned as

the model for creation and development of other renowned gardens in Shiraz (Bagh-e Takht, Bagh-e Delgosha, Bagh-e Jahan Nama, Bagh-e Afif Abad garden, Bagh-e Nazar garden, Bagh-e Karim Khani gardens, etc), and is thus of great significance. It is still a more holistic example of the Persian garden in southern Iran in more than one aspect. Also, poetry, literature, and different forms of arts such as architecture and various types of ornamental elements such as stone reliefs certain literary concepts (which mark the continuation of the architecture of Pasargadae) are yet some other features of the Persian garden, which are manifest in Bagh-e Eram to the best.

Married with the poetical ambience, the architecture of the Zands rule has created an exquisite perspective in Bagh-e Eram. What follows is a selection of some poems by Hafez, the great 14th century AD, who has created delicate poetry depicting the atmosphere of Bagh-e Eram.

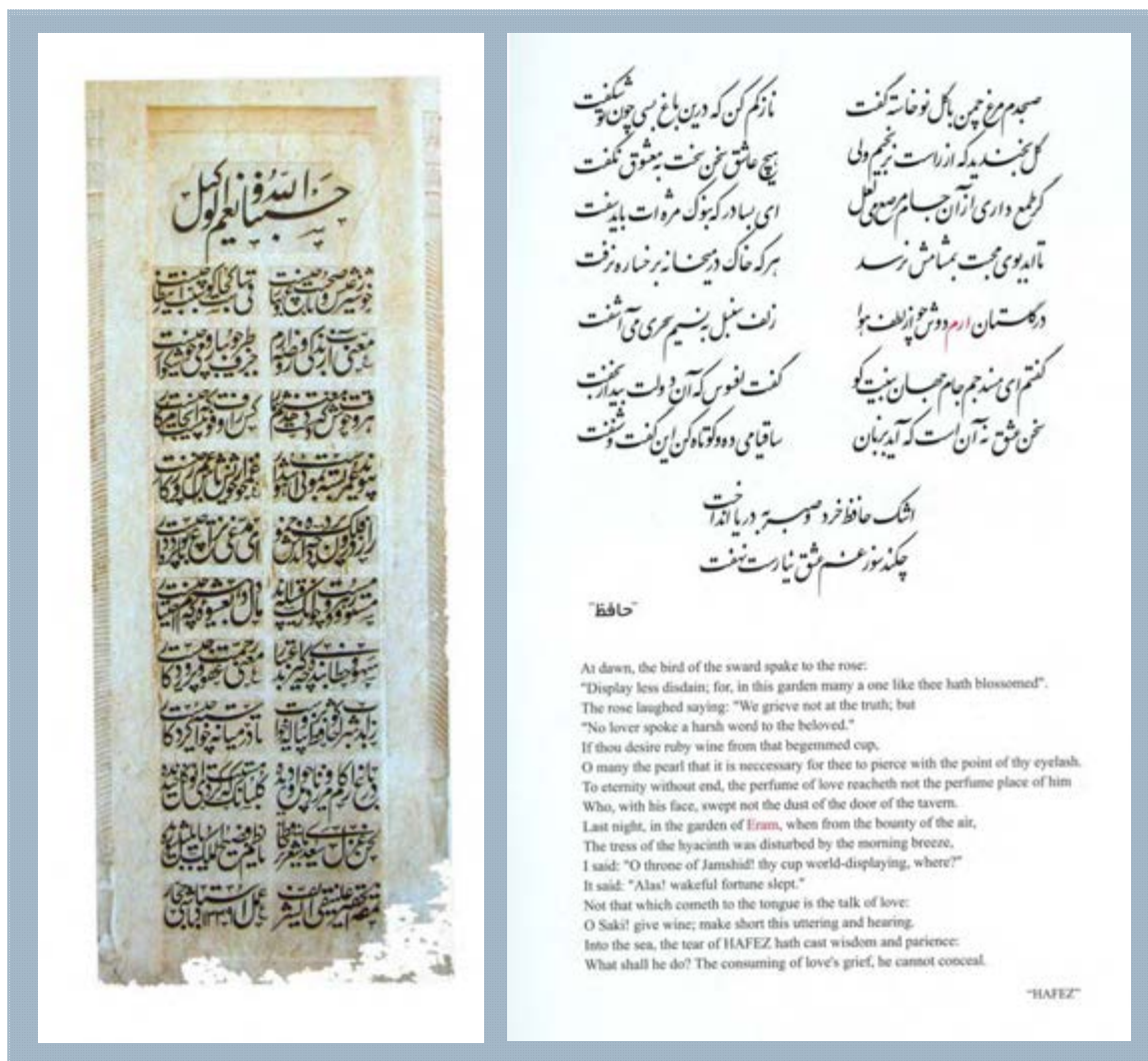


Fig. 1. core zone area of the Ancient Garden of Pasargadae

Development of the Persian garden under the rule of the Safavids in Isfahan, which is considered to be one of the greatest centers of world heritage sites, is evident in Bagh-e Chehel Sotun.

Another attribute of the Persian garden is its many functions as residential garden, government gardens, a mix of residential and government gardens, tomb- gardens, hunting gardens, and rural gardens; Bagh-e Chehel Sotun in Isfahan is the most magnificent, most prominent example of the governmental function. This shows the functional development and diversity of the Persian garden. This pattern has not only influenced the body of the garden, but also worked in development of Isfahan garden-city and the creation of the first urban Chahar Bagh in particular.

Another outstanding feature and evidence of genius in this garden which further helps with the completion of the OUV of the Persian garden, particularly considering the creative aspects of its architecture, is the very special architecture of the building and the design of water displays in the garden, which brings the artwork of the architects to the perfection in the beautiful, poetical reflection of the building in the main pool. This is why Bagh-e Chehel Sotun is globally acknowledged as the chef d'oeuvre of creative art and architecture in allegorical literature of Iran. The ornaments and paintings used to decorate the main building have made it into a splendid, glorious collection, which is not replicated in the Kushk of other gardens.

One of the best models of development and prosperity caused by a Persian garden over the course of six historical periods (from the pre-Islamic to the Qajar- elaborated in the history of this garden in Description) is seen in Bagh-e Fin garden, which has had a vital role in the development of the area surrounding it.

The technology of water use in the Persian garden, completed from the Safavids rule to the Qajars, is perfected in Fin. Other service spaces such as the baths, the residential areas, the gateway building, etc. are also wonderfully formed within the fortifications of this garden. The aesthetic aspect of the Persian garden is uniquely manifest to the full in Bagh-e Fin.

The best example to depict the desert origins of the Persian garden along with its being comprehensive and flexible in the arid lands and extreme weathers is Bagh-e Shahzadeh garden in Mahan-Kerman, dating back to the early years of the Qajars.



This garden brings together a complex of technology, architecture and landscape in the form of an integrated concept of linguistic, logical, mathematical, geometrical, musical, spatial, natural, and aesthetical understanding from a very significant period in the history of the Persian garden. Coupled with the poetical ambience and unique sight of the desert, the exquisite design of the gateway building of this garden is built to perfection. Tigran Qanat is yet another exceptional example of Qanat technology in the heart of the desert.

Bagh-e Shahzadeh is one perfect example of human genius in creating artificial ecosystems. It also presents an example of diversity and evolution of the Persian garden in its pattern of level garden, which functions as a model for other gardens of the sort. Whether the land of the garden has been level or steep has also been considered in selection of the nine gardens for the nomination. Bagh-e Shahzadeh is built on steep grounds, while Pasargadae, Bagh-e Fin, Bagh-e Dolat Abad, Bagh-e Pahlavanpur, Bagh-e Akbariyeh, and Bagh-e Chehel Sotun are on level grounds, Bagh-e Abbas Abad garden in Behshahr is created on steep hills and mountains, and Bagh-e Eram is constructed on fairly steep grounds adjacent to the mountains, altogether being examples of the diversity and flexibility of the pattern of the Persian garden.

With the tallest Badgir (traditional ventilator in Persian architecture) of the world and with its specific design, development of Qanat technology, and extraordinary sight, Bagh-e Dolat Abad provides the grounds for the boom of the historical fabric around. One should trace back the origins of the notion of endowment (Vaqf) and the concept of sustainability of the garden and water sources in Bagh-e Dolat Abad of Yazd, as many have endowed farm lands, residential lands, and lands of service use dedicated to conservation and development of this garden. A great cultural ensemble was also formed at this spot. This garden set a model for the development of urban and rural gardens in Yazd.

Bagh-e Pahlavanpur in Mehriz is another garden in Yazd which is known for its exceptional design as a rural garden with its network of alleyways and diverse flora. It represents design at rural scales, and perfect use of mud brick and clay ornaments. With the mighty Qanat running, it also comprises installations such as mills and fruit gardens.

The perfection of garden patterns is even further completed over the course of time in order to meet the emerging requirements such as stables and residential areas, becoming more and more functional with the addition of more diverse flora. Bagh-e Akbariyeh in Birjand is one good example. Belonging to the late Qajar and early Pahlavi rules, this one perfectly shows the process of evolution and continuation in creation and the Persian garden. Its peripheral spaces are evidences of completion of service spaces needed in the garden through the time. Also, being the oldest one in the region, Bagh-e Akbariyeh plays the role of a model for gardens such as Bagh-e Rahim Abad, Bagh-e Showkat Abad, Bagh-e Behalgerd, etc....

Bagh-e Akbariyeh in Birjand is another great example of the order of the Persian gardens.

Thus, the Persian garden with its harmonious design has not been limited to dry climate, and has developed in a variety of climates, practicing its principles in areas with pleasant weather and reaching perfect results. The Persian garden has travelled away from its initial origins, and has been placed in a variety of grounds, keeping its authentic patterns and elements. Persian gardens selected are not established merely in dry lands, but also in more arable lands of moderate climates with their springs, lakes, dams, and rivers, all showing the perfect use of water in the garden itself as well as in irrigating the adjacent villages. The best example of this is evident in Bagh-e Abbas Abad in Behshahr, which is the representative the Persian gardens in a humid climate.

After being created, it turned to the model for a certain category of Persian gardens known as aqua-garden (spring garden); El-Guli in Tabriz, Cheshmeh Ali in Damghan, and Bagh-e Abbas Abad in Hamadan (which is the most recent one) are examples of this category with a large lagoon in the center.

Close examination of creative techniques used in this unique garden, perfectly respecting the nature and trying to tame it at the same time shows yet another aspect of human genius in creation of the Persian garden: Qanat , pools, and rivers have all been elements effectual in creation of these gardens, marking the differences between them: Pasargadae is built on the side of a river; Bagh-e Fin, Bagh-e Pahlavanpur, Bagh-e Dolat Abad and Bagh-e Shazadeh have lived on their Qanat systems. Even if none of these sources were available, as in Bagh-e Abbas Abad garden, creativity, knowledge, and the engineering experience of the creators would have resulted in construction of an irrigation system using

dams, leading the water in the desired courses, and constructing towers to break the pressure of the water in order to transfer it from the downstream to the upstream.

Bagh-e Abbas Abad in Behshahr is the best example of such facilities with its harmonious complex of palace, flower garden, bath, and installations to break the water pressure, dam, and Chartaqi. This ensemble shows the perfect genius and creativity in the use of water and the nature in various stages during the rule of the Safavids, together with the perfection and completion of the Persian garden.

Altogether, the choice of the nine gardens together from various climates, various floras, various designs, and various irrigation systems shows the OUV of the Persian garden clearly. The trend of selection has taken a chronological approach based in the specific features in the design, architecture, landscape, formation, evolution, and other important elements of these gardens. Scientific, artistic, social, and cultural aspects of the gardens have also been highlighted in this trend.

These nine gardens provide outstanding examples of development and completion of technology, creativity, aesthetics, poetry, and design for over two thousand years in the history of Iran, and have brought them to perfect harmony with the time and place. Altogether, the elements of these gardens have established perfect harmony between themselves and their surrounding environment in order to create an ideal balance and sustainability.

Function-wise, each of these gardens has been greatly influential in the development of the traditions and culture of the area surrounding them.

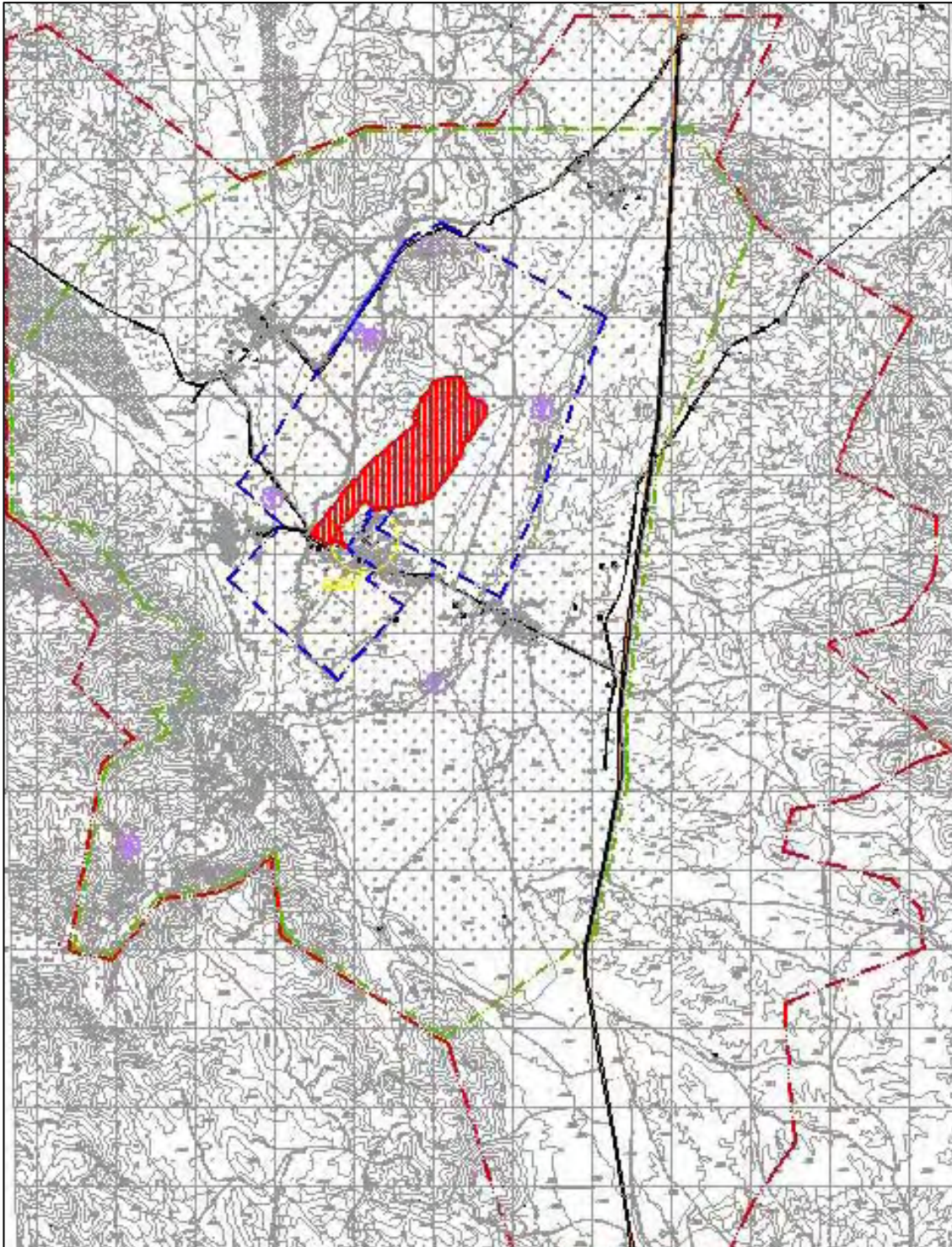
3. Some of the components included in the proposed serial nomination are already inscribed or are comprised in properties inscribed in the World Heritage list. It would be important to understand whether and how the boundaries of these components have been specifically identified in order to reflect the proposed outstanding universal value for the currently nominated serial property.

This is about Pasargadae garden. The historical ensemble of Pasargadae which also encompasses Pasargadae garden, has already been inscribed on the list of the world heritage. This garden has been listed with other gardens within the core zone of the historical site of Pasargadae with its defined boundaries. It is to be mentioned that primary, secondary, and tertiary boundaries have been defined for this site in 2004, of which only the primary one would be sufficient for protection of Pasargadae as one of the examples of the Persian gardens.

As further details on the architectural structures and irrigation canals and the relation between them has been clarified with the cooperation of the French team, using geophysical methods and field archeological studies, it is presumed that there could have been a significant relation between Pasargadae garden and other structures of the ensemble during the Achaemenian period. Thus, vaster core zone has been defined for this garden. The proposed boundaries and core zone are encompassed within the inscribed landscape of Pasargadae.

4. Further explain whether and how the separate components of the property are functionally linked and how each component contributes to the expression of the proposed outstanding universal value of the serial nominated property.

Since the function of these gardens in the expression of the OUV of the Persian garden is in close relation with their functional influence in the statement of values, the details required to answer this questions are included in the reply to question number 2.



**Fig.2 core, buffer and landscape zones of the Pasargadae world heritage site**

5. further justify the rationale according to which the boundaries of the nominated components and their related buffer zones have been selected to allow better understand whether the attribute included in each nominated component convey adequately the proposed outstanding universal value and each buffer zone contributes to the protection of this value.

Core zone and buffer zone of each garden has been determined by its relevant base after consulting with experts from various disciplines. Generally, the rationale of demarcating zone borders in the nine nominated gardens is in such a way that the area within the core zone contains elements that express entirely the outstanding universal values of the garden and the area located within the buffer zone serves as a prelude for the introduction of garden values as well as the preserver of elements related to such prominent universal values.

In gardens located inside city limits, buffer zones have been defined considering the effects and impacts of urban development. Here the main task is protecting the authentic and integrated entity of the garden against physical or legal threats. But the buffer zones of gardens exposed to urban development and/or tourism have been defined so that they could act as alarms alerting relevant authorities of potential threats of development for the authenticity and integrity of the garden in advance so that a resolution can be reached. For example, the buffer zone of Bagh-e Abbas Abad Garden has been designated regarding regional tourism potential as well as the possibility of related threats ensuing. In many gardens, the buffer zone not only serves to safeguard garden values but also plays a vital role in keeping and controlling the space needed for better presentation of the garden in its natural bed such as Bagh-e Eram . Also in some gardens the buffer zones protect structures or arteries related to gardens such as Qanat s, seasonal rivers or historical structures nearby which are important for introducing garden values. As an example, the buffer zone of Bagh-e Shahzadeh Garden has been defined regarding the technical buffer zone of its Qanat or in Bagh-e Fin Garden the Qanat is so significant that the existence of the garden is incomplete without it. Therefore, Qanat has been located inside the core zone of the garden. Main reasons for determination of buffer zones in each one of the nine Persian Gardens nominated are as follows:

## 1- Ancient Garden of e Pasargadae

Bagh-e Shahi and its palace ensemble are part of the historical complex of Pasargadae. In fact, Pasargadae Complex is incomplete without Bagh-e Shahi just as Bagh-e Shahi is not complete without other elements of the historical complex of Pasargadae. Thus, outstanding universal values of Ancient Garden of Pasargadae only make sense when considered as part of Pasargadae historic Complex. In addition, research to find structures related to the garden within the proposed core zone area continues with the cooperation of a team of French archaeologists leading to some interesting results. For example, a few historical canals and structures have been discovered during geophysical studies. For this reason, the core zone of Ancient Garden of Pasargadae includes the rest of elements belonging to Pasargadae Complex.

Therefore, water distribution system within the ensemble of palaces, gardens and architectural structures such as Shahi Bridge as well as pavilions which together make this garden a prototype of the Persian garden, are presented and protected within the core zone area as a whole in connection with Pasargadae Complex.

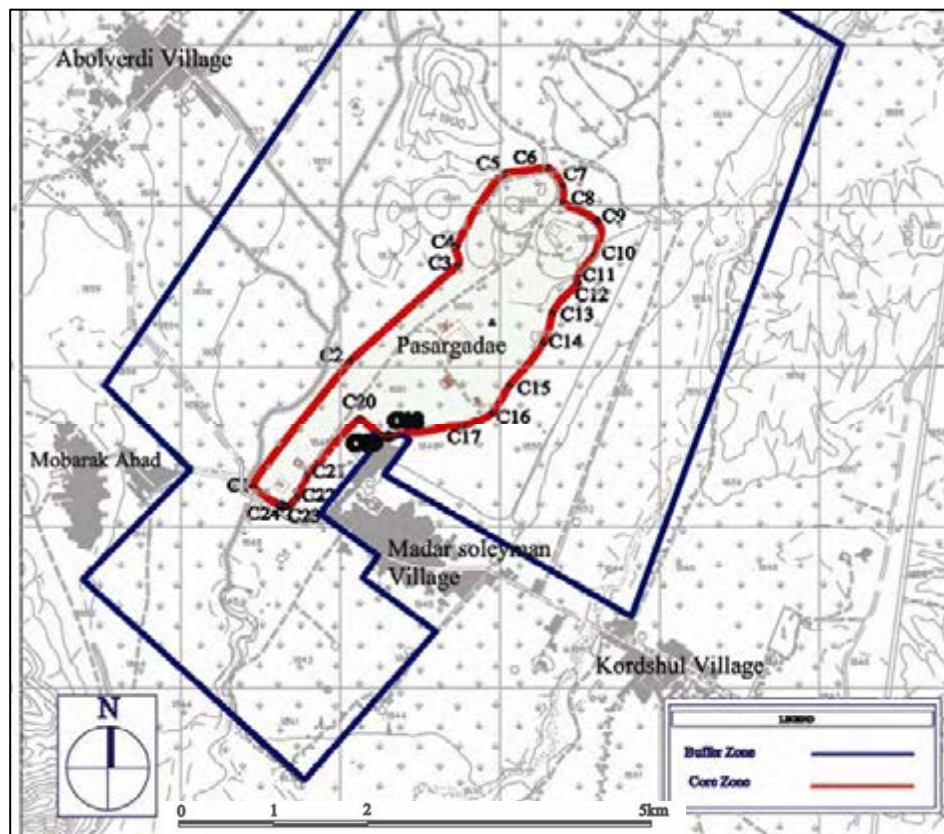


Fig. 3. core zone area of the Ancient Garden of Pasargadae

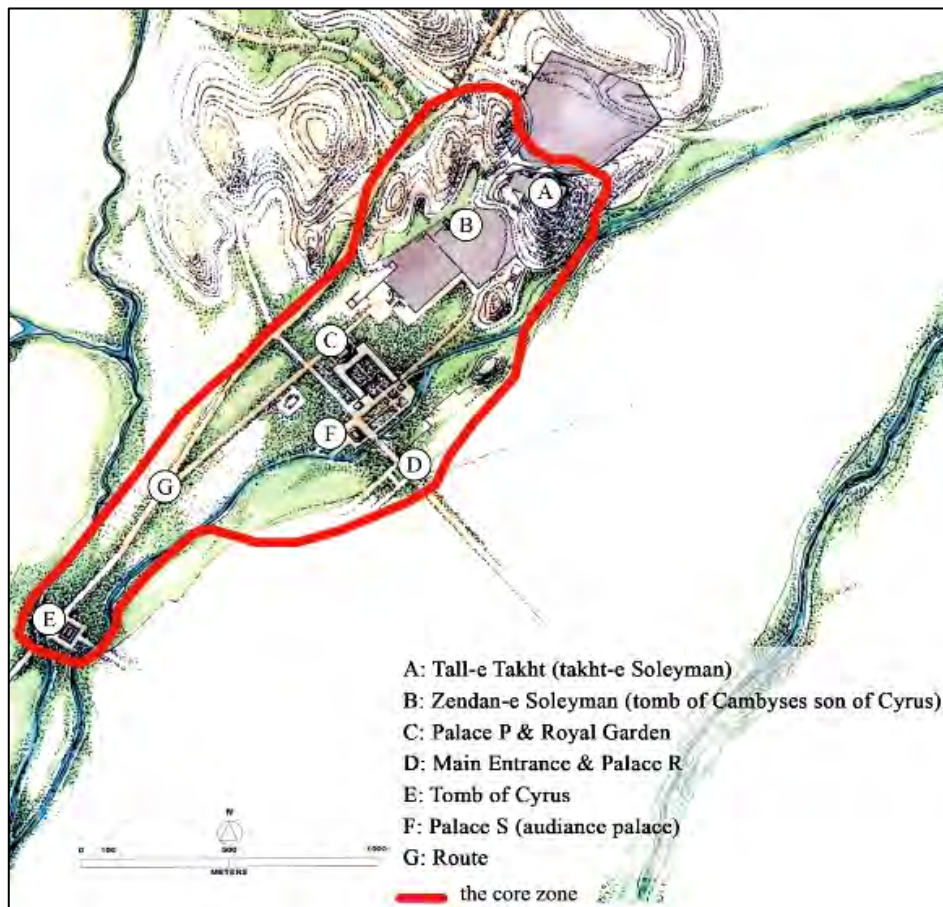


Fig. 4. elements of Pasargadae Complex and Bagh-e Shahi within the core zone altogether transfer outstanding universal values

Buffer zone of Ancient Garden of Pasargadae has been designated with due consideration of ancient monuments buried in Pasargadae plain and historic site as well as the necessity of their conservation. Additionally, the designated buffer zone includes part of the cultural domain of Pasargadae through which the nomads still pass regularly. The necessity of protecting visual qualities of the natural context of the site, in particular surrounding environment of the original, historical entrance of Pasargadae Complex (from Toletakht side) is yet another factor that influence determination of the present buffer zone of the site. On the whole, Pasargadae buffer zone has been selected in such a way that effects of agricultural development as well as the expansion of Madar-e Soleyman (Solomon's mother) village could be controlled. Of course it should be noted that the above mentioned buffer and core zones are located within the landscape buffer zone of Pasargadae world heritage site.



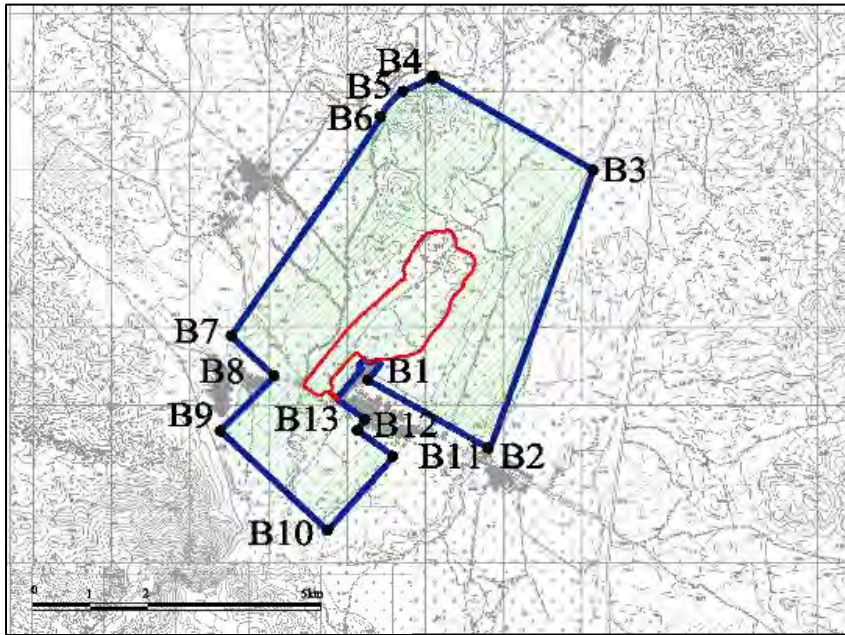


Fig.5. Buffer zone of the Ancient Garden Of Pasargadae



Fig.6. Natural context of the Pasargadae ancient site

## 2- Bagh-e Eram

As mentioned previously in the second chapter of the dossier on the history and description of Bagh-e Eram , it has expanded gradually so that the present historical garden is located at the center of the complex. In other words, today the garden cannot be separated from its surrounding complex as the whole area is managed by a unitary institution and integrated policies are enforced in order to protect the entire complex. Therefore, it can be stated that the reason for considering the whole complex within the core zone is the necessity of protecting plants variety of the complex which is among the duties of the manager of the provincial Base of Bagh-e Eram.

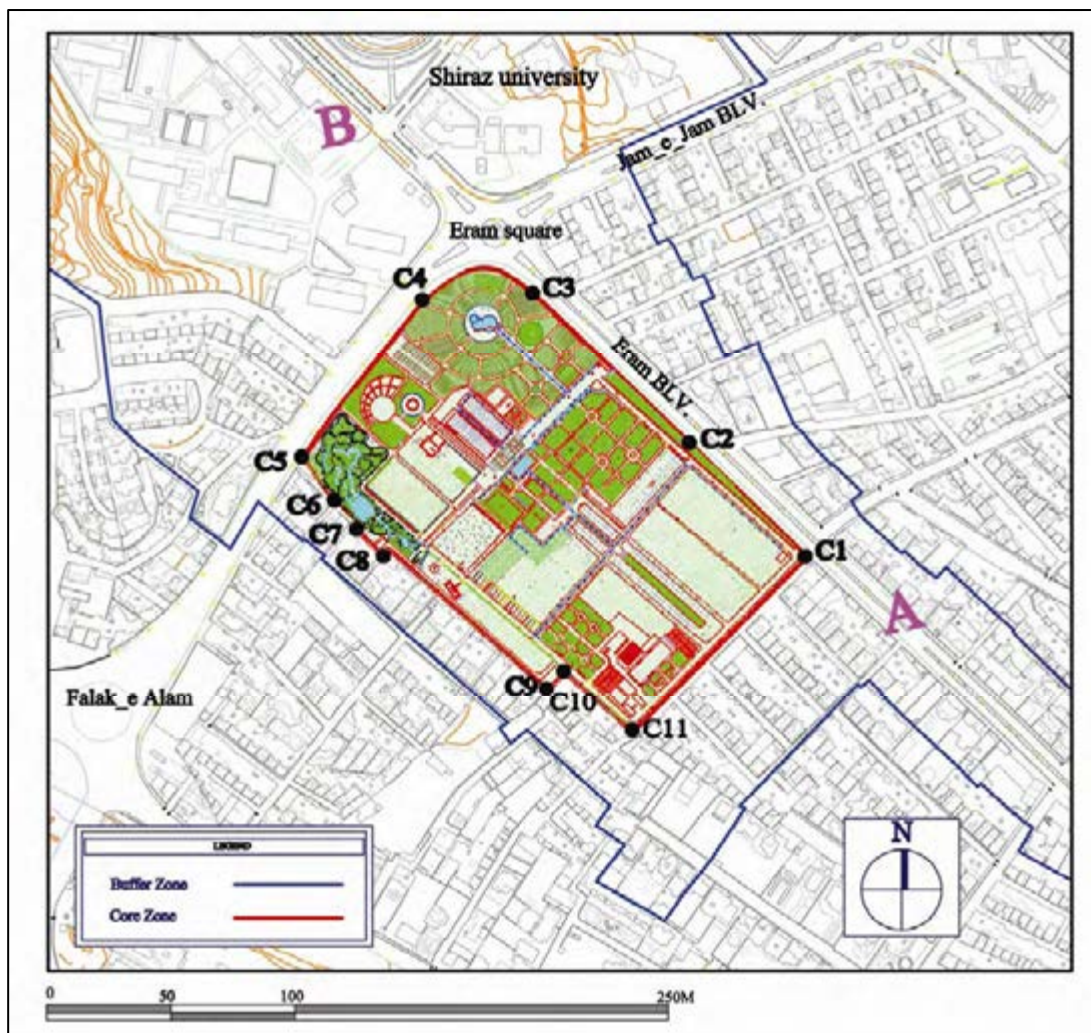


Fig. 7. Core zone area of the Bagh-e Eram

In order to protect the visual integrity of the nominated garden, its buffer zone has been extended as far as the mountain located northwest of the garden which is its landscape. From the southern side, new constructions upon the main entrance axis of the garden that passes through the city fabric are controlled according to buffer zone regulations. In this way, the prelude of approaching Bagh-e Eram and its landscape which play vital roles in expressing the cultural and aesthetic values of the garden are protected by controlling the above mentioned visual corridor.

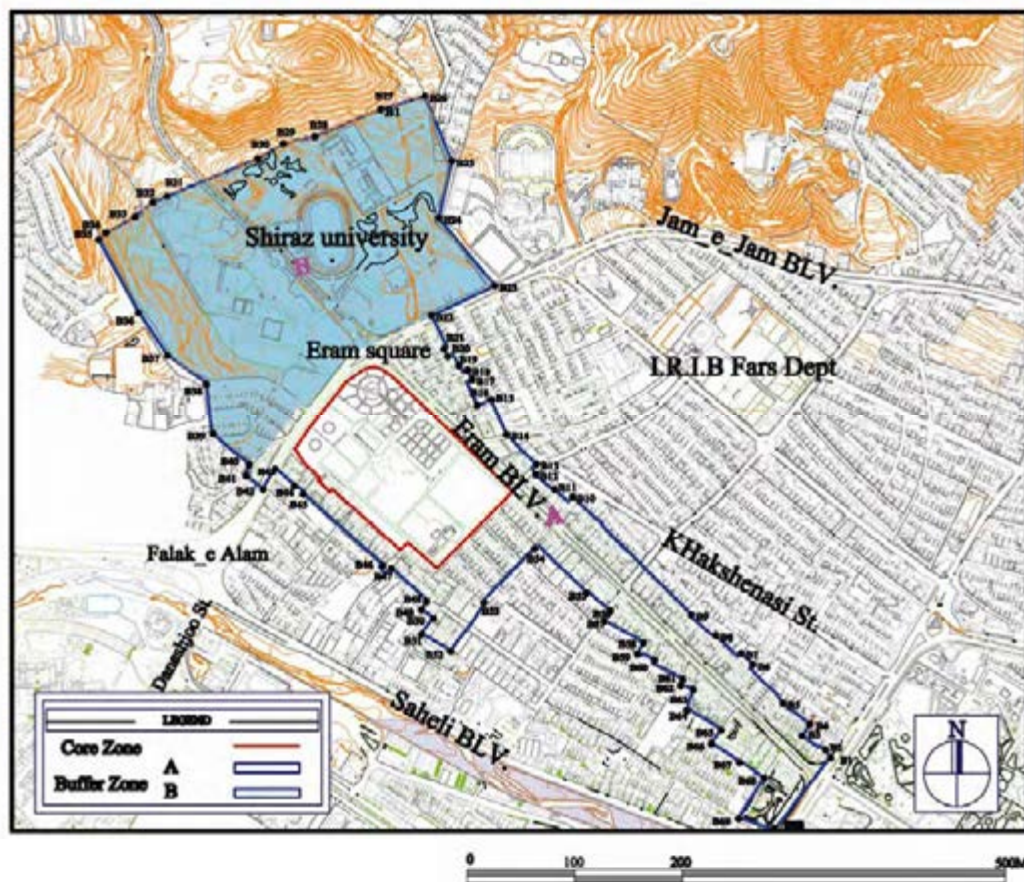


Fig. 8. Buffer zone area of the Bagh-e Eram

### 3- Bagh-e Chehelsotun

The core zone of Bagh-e Chehelsotun has the function of protecting the original garden design, Chehelsotun building with its exquisite architecture, its valuable decorations and wall paintings as well as the water circulation system of the garden. In fact, core zone of Bagh-e Chehelsotun has been defined in such a way that it encompasses the entire garden elements.

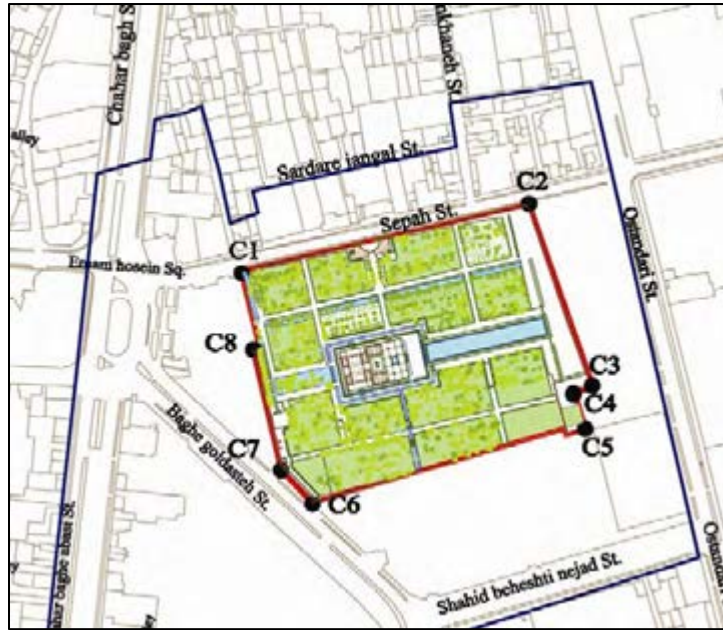


Fig. 9. Core zone area of the Bagh-e Chehelsotun



Fig. 10. General view of the core zone area of the Bagh-e Chehelsotun

In fact, Bagh-e Chehelsotun is one of Isfahan's gardens in the the Safavid era located inside the city fabric called Chahar- bagh. Today, Bagh-e Chehelsotun and its surrounding historic city fabric are managed and protected under the supervision of ICCHTO. Generally, during the designation of the buffer zone in addition to management requirements due attention has been paid to the necessity of protecting the historical context within which the historical garden of Hasht Behesht and the portal of another historical garden called Bagh-e-khalvat are located. It should be noted that the entire buffer zone and Bagh-e

Chehelsotun is located inside the buffer zone of the world heritage site of Imam Square in Isfahan.

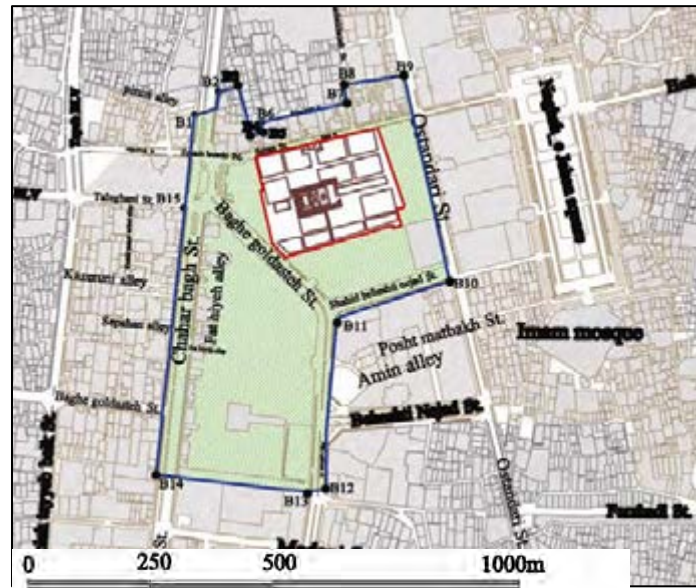


Fig. 11. Buffer zone area of the Bagh-e Chehelsotun



Fig. 12. General view of Isfahan city in savavid era, (Bavand Consultant Engineers)

#### 4- Bagh-e Fin

Core zone of Bagh-e Fin contains architectural elements of the garden, its water circulation network, its Karts as well as irrigation system of the garden. The reason for extending its core zone in a southwestern direction is the necessity of conservation of the Fin Qanat.

Zone A located within the buffer zone encompasses and protects the surrounding rural fabric as well as historical mills and other historical structures inside the Fin-e Kuchak. The most important monument existing in this area is the Old Garden (Bagh-e-Kohneh) which has been built even before Bagh-e Fin construction in the time of Al-e- Buyeh dynasty. The aim of zone B is conservation of historical monuments located within this area (such as the historical site of Tappeh Sefid or White Hill) Aside the above mentioned points, another purpose of the buffer zone is to monitor the expansion of the new Fin village.

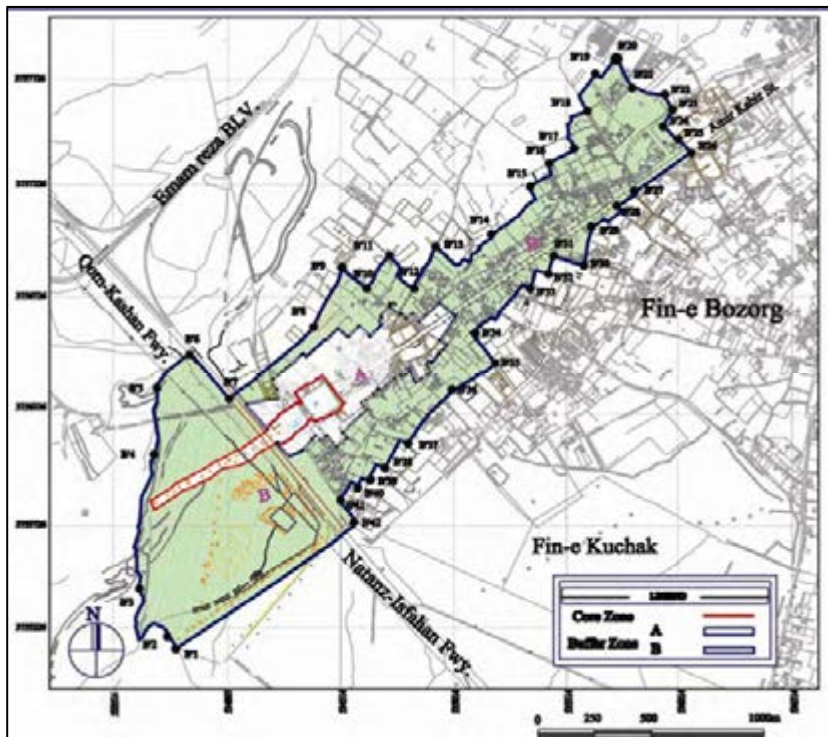


Fig.13. buffer zone area of the Bagh-e Fin

## 5- Bagh-e Abbas Abad

Abbas Abad historical complex which dates back to the Safavids era includes: garden, pool, two brick towers, Chahar Bagh Area, water mill, palace ruins, stone-paved paths as well as water circulation system all of which have been exposed during archaeological investigations. The core zone of the garden covers and protects these monuments entirely. Given the fact that archaeological investigations are still going on in the region, those sections which might be the location of historical structures according to experts are protected under relevant buffer zone regulations. Considering topographic

condition as well as tourism attractions of the region, protecting garden landscape, local plants as well as natural fabric of nearby forest against the expansion of tourism industry and other factors have been taken into account.

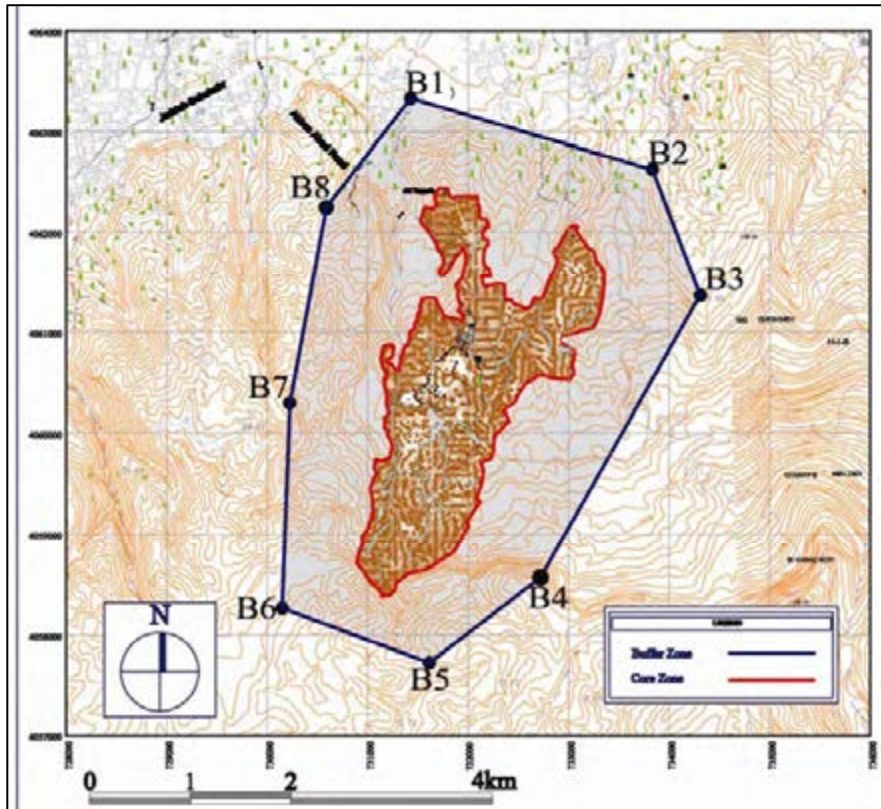


Fig.14. core and buffer zone areas of the Bagh-e Abbas Abad



Fig.15. landscape of the Bagh-e Abbas Abad

## 6- Bagh-e Shahzadeh

Core zone of Bagh-e Shahzadeh perfectly covers valuable architectural elements, water circulation system as well as garden plants with its limits dictated by garden walls.



Fig.16. core zone area of the Bagh-e Shahzadeh

Buffer zone of Bagh-e Shahzadeh aims to protect the natural context and landscape of the garden against industrial and tourism expansions. The seasonal stream flowing into the garden from high lands as well as Tigran Qanat which supplies its water are within the buffer zone.

Northwards, the buffer zone line extends as far as the city limits border. The residential district adjacent to the buffer zone of the garden follows the Municipality regulations as well as the national buffer zone of the garden but measures enforced within the buffer zone prohibit any new construction work extending toward the garden.



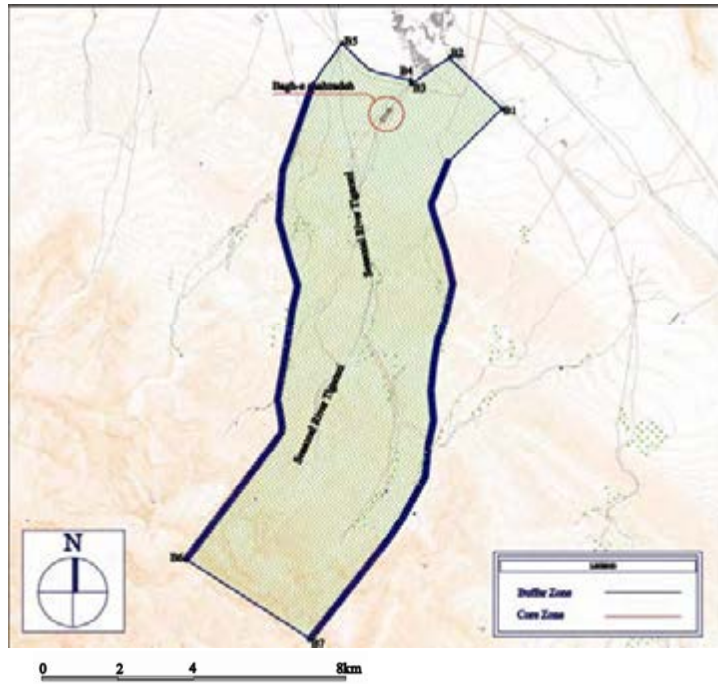


Fig.17. Buffer zone area of the Bagh-e Shahzadeh



Fig.18. Natural context of the Bagh-e Shahzadeh

## 7- Bagh-e Dolat Abad

The elements of the garden comprised of summer and winter pavilions, court buildings (Divan-khaneh), the guest house, the archway and cistern as well as garden plants and its water circulation system are protected by the core zone.

Given the fact that the entire farm lands and properties surrounding the garden are endowments (Vaqf) of Bagh-e Dolat Abad, its buffer zone encompasses all of them. On the other hand, since the city fabric opposite the south eastern side of the garden enjoys a unique historical value, therefore the buffer zone line covers a significant part of the fabric.

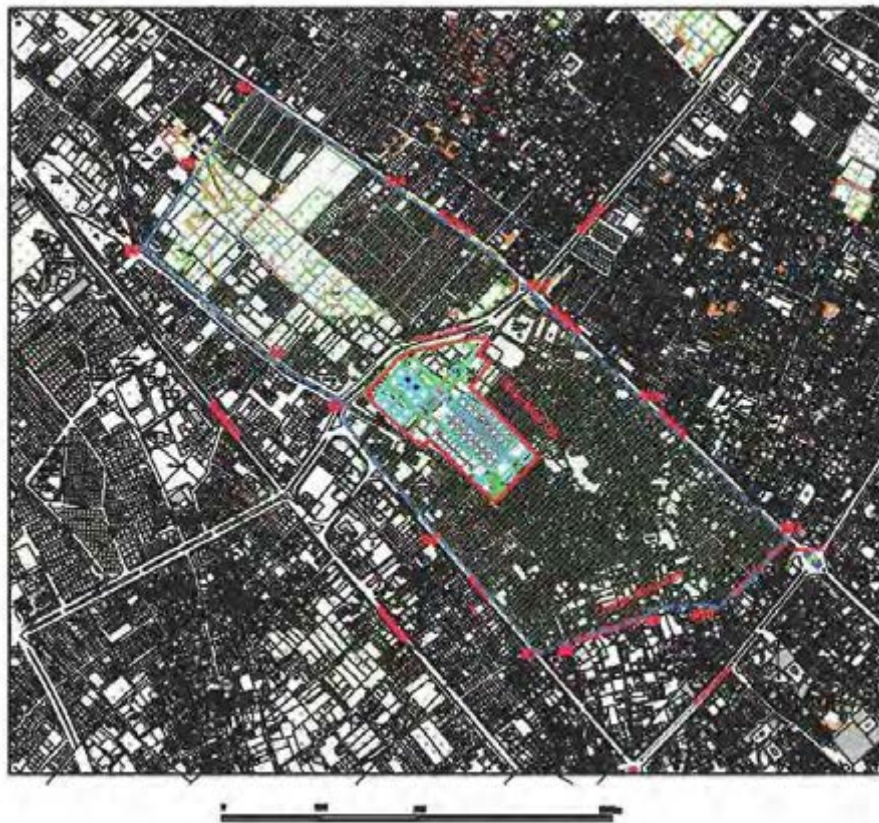


Fig.19. Core and buffer zone areas of the Bagh-e Dolat Abad

## 8- Bagh-e Pahlavanpur

Alike other gardens, the core zone of this garden has been defined in a way that architectural elements, garden plants and the water circulation system representing the entity of the garden are protected.

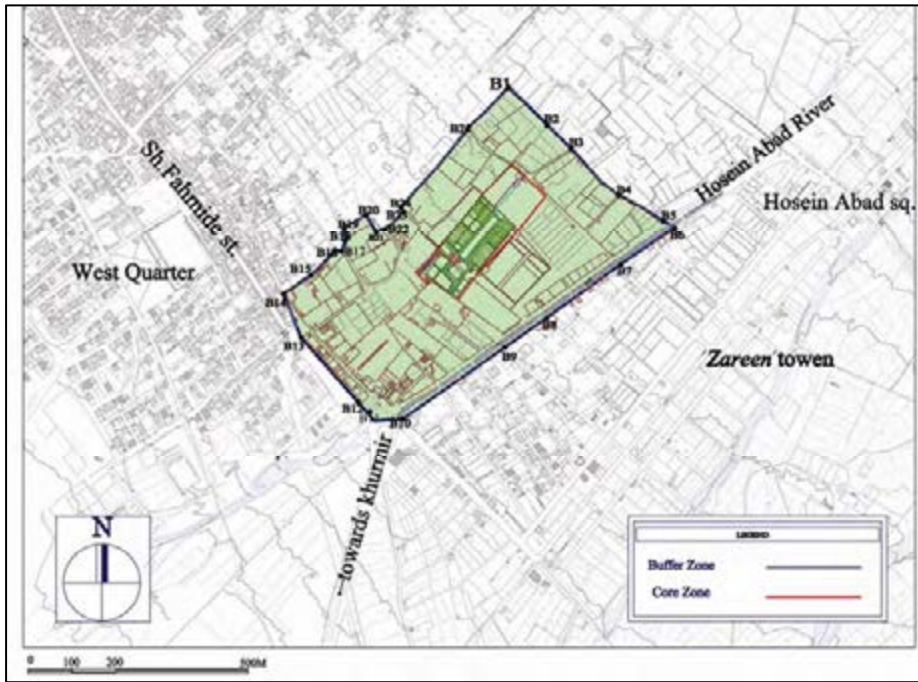


Fig. 20 core zone area of the Bagh-e Pahlavanpur

Conservation of the rural fabric and nearby alleyways which play a significant role in presenting the concept of Pahlavanpur rural garden values is realized by buffer zone regulations. In addition, protecting the water supply of the garden, Hasan-abad Qanat as well as valuable water mills of Anjirak and Mirza Nasrollah is insured thanks to the buffer zone.



Fig.21. Core zone area of the Bagh-e Pahlavanpur

## 9. Bagh-e Akbarieh

Defining the core zone of Bagh-e Akbarieh has been done by taking into consideration the necessity of protecting architectural elements constructed gradually, plant variety of the garden which shows Khorasan plants species as well as water circulation system of the garden.

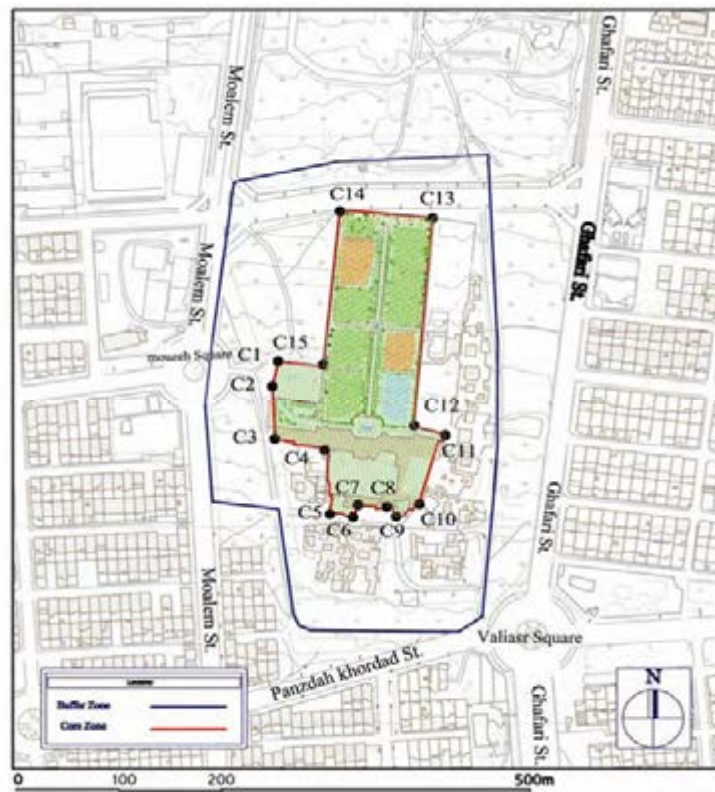


Fig 22. Core zone area of the Bagh-e Akbarieh

The old fabric of Akbarieh Village of which only a small fraction still remains is situated south of the garden and is protected by its buffer zone. Moreover, part of Akbarieh Qanat is protected here. Of course it should be noted that the Qanat also has an exclusive technical buffer zone and is protected under the supervision of ICHHTO. Altogether Bagh-e Akbarieh's buffer zone has been selected considering the necessity of preventing any damage to the garden due to the expansion of urban fabric and its surroundings.

6. Deepen the description of the measures contained in the laws mentioned in chapter 5.b "protective designation" of the Nomination dossier in order to facilitated the understanding of how the legal instrument in force ensure effective protection of the nominated property overall and of each component.

In the legal system of Iran, attention has always been paid to the necessity of protecting cultural heritage. Here we try to explain how our laws protect properties registered in the national cultural heritage list. In addition, the legal status of decisions made by cultural heritage bases as well as regulations and measures concerning core and buffer zones of historical buildings are briefly discussed. Finally, laws ensuring the protection of green spaces and natural resources of the country are mentioned.

- The approach taken by the constitutional law, the civil code and the Islamic punishment law regarding the conservation of national cultural heritage:

In Iranian constitutional law as the basic law of the country mention has repeatedly been made of the necessity of protecting cultural heritage. Article 83 of the constitutional law as well as article 26 of Iranian civil law prohibits private ownership of historical monuments and name ICHHTO officials as the final decision makers in this regard.

In addition, according to the Islamic punishment law approved in 1996, various punishments have been envisaged for legal entities or real persons harming historical monuments that are registered as national heritage. Therefore, because all the nine nominated gardens have been registered in the national heritage list, they enjoy full legal protection.

For example according to article 558 of this law, anyone who harms part or whole of a national historical monument not only must pay compensations but also will be sentenced to one to ten years imprisonment. Moreover, according to article 559, anyone stealing movable properties of museums or historical buildings must return them to the government and also will be sentenced to one to five years in jail.

Regarding **the status of core and buffer zones regulations**, it must be said that article 560 of Islamic punishment law has been allocated to this according to which: the ICHHTO has the right to specify legal core and buffer zones for cultural properties based on their specific conditions following specialized studies. These zones will be protected under the above

mentioned article. Thus if violation of the specified core and buffer zones causes damage to national cultural heritage properties, the offender not only must remove traces of the offence and pay relevant compensations but also must spend one to three years in prison.

Also in article 564 of Islamic punishment law mention has been made of inappropriate interventions and offences in the approved core and buffer zones of historical buildings. According to this article anyone who commits incorrect interventions in a national heritage building without prior consultation with cultural heritage authorities must pay compensations and is sentenced to six months to two years imprisonment.

- The approach taken by the five year development plan regulations regarding the conservation of national cultural heritage:

Due attention to the protection of cultural heritage and historical buildings has also been paid in regulations of the five year development plan of Iran.

According to paragraph 3 of article 1 of the planning and budget law approved in 10.12.1351 SAH (1972), the five year plan is a masterprogram put forth for a term of five years to be approved by the Assembly. Aims and policies social and economical development activities during this period of time have been specified in this plan.

According to the third development plan ratified in 1375 SAH (1996), roles of city councils and local people about cultural heritage were increased. The important point in the law is its article 166 according to which in order to fulfill the duties mentioned in the articles of association of ICHHTO approved in 1.2.1367 SAH (1988) regarding restoration and revitalization of cultural-historical buildings and fabrics, the head of ICHHTO must become a member of the High Council of Iranian Architecture and City Planning. Additionally, representatives of ICHHTO must join article 5 Commissions of the High Council of Iranian Architecture and City Planning (approved in 22.12.1351 SAH- 1972) Therefore; ICHHTO's heads can take part in development projects of the country in order to prevent any potential damage to historical buildings as well as any violation of core and/or buffer zones. Stages of approving urban projects under the supervision of the Council have been presented in pages 667 and 668 of the dossier.

Also in the latest development plan, conservation of historical monuments in particular urban buildings and ensembles has been taken into account. Moreover, mention has been made of the **necessity of public partnership** in protective affairs as well as in **establishing local bases to achieve a sustainable conservation** of cultural heritage. For example, in paragraph D of article 144 of the fourth five-year development plan (approved in 1383 SAH- 2004) the necessity of setting up bases for protecting important national monuments has been noted. According to this article, the National Base of Persian Garden and its affiliated branches that are bound to protect the above mentioned nine gardens, enjoy a legal status so that their decisions are legally binding.

- Regulations allocated to the protection of green spaces and natural resources:

There exist also laws concerning the prevention of damaging urban green spaces as well as specific plant species. All regulations cited in page 669 of the dossier concern protection of natural resources and green spaces which includes the nine nominated gardens. As a result all the nine nominated gardens enjoy full legal protection.

For example, article 50 of the constitutional law of the country (approved in 1920) forbids the execution of any development project harming natural resources.

The protection and expansion code of urban green spaces concerns urban parks and gardens. According to this law all the trees existing in such spaces must have an ID card in order to prevent from being cut. Additionally, according to the protection of forests and natural resources law, some plant species are specially protected. Names of them are presented in page 669 of the dossier.

Generally, the performance of the National Base of Persian Garden as well as its provincial branches is legally supported. Moreover, all regulations about core and buffer zones sanctioned by ICHHTO are legally binding. Regarding potential negative effects of urban development projects upon historical buildings, representatives of ICHHTO are invited to such sessions in order to prevent the approval of projects threatening such buildings.

7. Deepen the description of the objectives and the measures of the planning instruments in force mentioned in chapter 5.d. "Existing plans" of the Nomination Dossier and how these measures interact with the regulations in force for each component of the serial nomination (pages 670-678 of the dossier) on the nominated areas and on the buffer zone in relation to the cartography provided and to the threats to the property mentioned in the nomination dossier.

After being enclosed in regional and urban master plans, maps and measures about core and buffer zones of historical buildings and areas of Iran become enforced legally. Here, a brief explanation is presented about including such measures in urban projects.

Maps and measures of core and buffer zones of properties registered as national heritage are presented to the Ministry of Housing and Urbanization by ICHHTO. The ministry is bound to submit them to consultants or experts responsible for preparing the master and/or development plans so that if required revisions can be made. Afterwards, these plans will be examined by the High Council of Iranian Architecture and City Planning. It must be noted that in sessions of examining and sanctioning urban development plans, representatives of ICHHTO also attend and give their opinions. More details concerning the process of plans sanctioning and the legal role of ICHHTO in the examination of development plans are discussed in pages 667 to 669 of the dossier.

In all urban development or master plans approved, an exclusive area is allocated to historical buildings as well as the historical limits of the city. Guidelines of urban master plans are devised for the purpose of preserving the values of the historical monument or region. ICHHTO has the duty of defining measures and regulations related to core and buffer zones of the monuments, final ratification of reorganizing plans as well as any possible interventions within the section located inside the historical area. Additionally, each nationally registered historical building has its own core and buffer zones. Municipalities or any other relevant organizations are informed about the boundaries defined for protecting such buildings. In order to make more clear the relation between urban development plans and buffer zones designated for the nine nominated gardens, an example of Persian gardens is presented here:



- Status of the protective buffer zone of Bagh-e Chehelsotun in the master plan of Isfahan:

The historical limits and relevant measures of the master plan of Isfahan are as follows:

The core zone of the historical-cultural area of Isfahan City:

Limits: the historical-cultural complex of Isfahan City consists of the following historical monuments and their legal buffer zones:

Ali-qapu Palace, Tohid-khaneh Building, Ashraf Hall, Sarpooshideh(roofed) Hall (former Statistics Administration), Shakh (horn) Palace (former Governor-general Building), Teymuri Hall, Chehelsotun Palace and Garden, Hasht-behesht Palace and Garden, Boland Market, Chahar-bagh School of Emam Jafar Sadegh, Shah's Mother Caravansary ( present Abbasi Hotel) and the coppersmiths' (Mesgarha)bazaar.

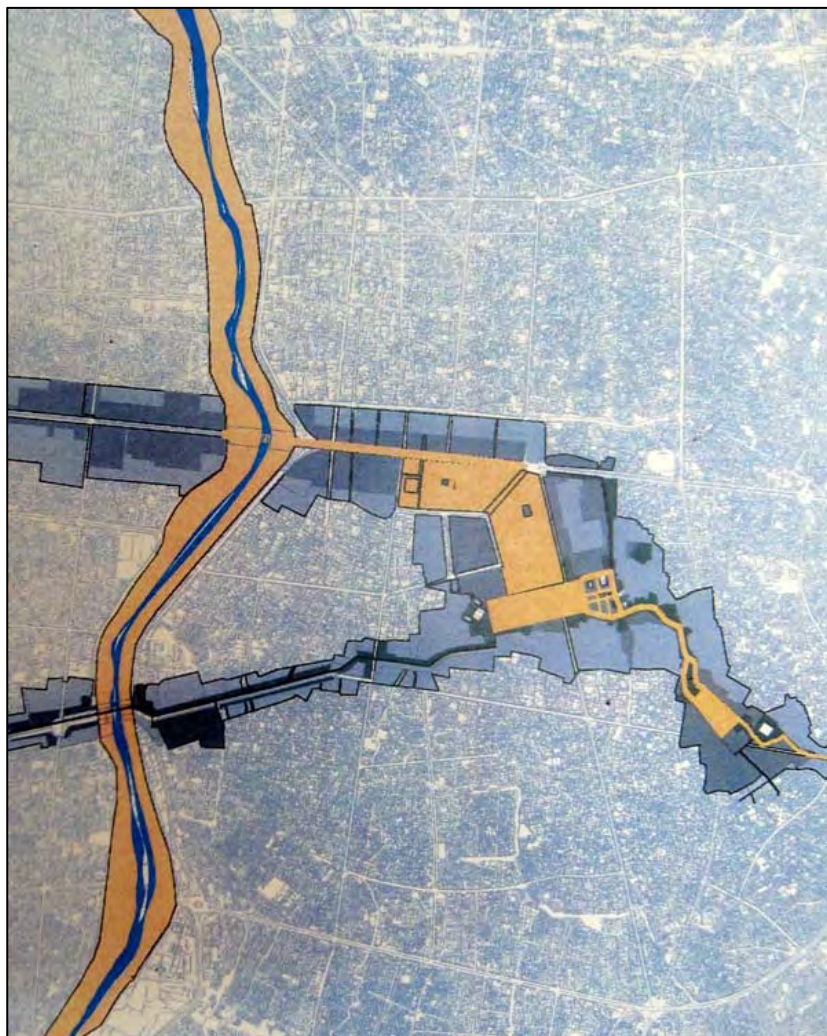


Fig 23. Historical-cultural area of Isfahan City

- Core zone regulations of the cultural- historical area of Isfahan City:  
Considering the significance of historical monuments registered in this complex as well as extensive investigations conducted in the relevant district, the following cases are suggested for conservation of the complex:

- 1- From opposite Boland Market as far as Darvazeh-dolat must be attached to garden space according to the regulations of Article 5 Commission.
- 2- Any construction and development activity within the limits and the complex is forbidden if not ratified and supervised by ICHHTO
- 3- Any functional alteration within the limits of the complex is prohibited if not ratified and supervised by ICHHTO

- buffer zone of the cultural- historical area of Isfahan City:

1- Limits: The area of the cultural- historical area of Isfahan City has been specified in master plan maps. Its four directions are as follows:

Northward: to the former Sepah Street

Westward: to Chahar-bagh Street

Southward: to Amadgah Street, Bagh-e-Goldasteh St., Behesht-e-Aeen St. and Saadi Street

Eastward: to Naqsh-e-Jahan Square

2- Measures of the cultural- historical area of Isfahan City

3- Within the area designated by code: N1.4, construction of buildings is allowed if: the depth mentioned in master plan maps is observed, if its function is specified in that plan, if it has an appropriate architecture, if it is at most in two floors with a maximum height of 7.5m and if its design and map has been ratified by ICHHTO

4- The area north of Sepah Street (code: N1.5)

This area which at present is occupied by banks and offices, must keep its status quo. So no interference is permitted without the knowledge of ICHHTO

8. Further explain the overall framework of the management system and of the instruments (i.e., existing planning tools, action plans, etc.) on which management will be implemented, also with regard to the identified threatening factors, their possible remedies and the necessary priorities of action.

The overall framework of the proposed serial Persian Garden monuments has been devised based on the principle of an integrated supervision over the conservation of the nine nominated gardens. Management system of Persian Garden has been set up in such a manner that macro long term policies are made by the Strategic Council based on the requirements and values of each individual garden but at the same time all nine gardens are run as components of a unitary whole with a single management approach.

As seen in the chart of page 680 of the nomination dossier, one central office based in Tehran coordinates the management of all nine gardens. Managers and experts stationed at gardens are charged with the task of regular participation in meetings held at the central office in order to discuss relevant problems. These sessions are held with the presence of the Technical-Strategic Council members who have the duty of following up the conservation condition of the gardens. If required, in addition to the Technical-Strategic Council, experts in various disciplines coming from provincial bases, research or academic institutes are invited to meetings for consultations about improving the conservation of gardens. Moreover, the advice of local representatives as well as Vaqf custodians is sought regarding endowed gardens. Therefore, such collective consultations and discussions pave the way for finding better solutions for gardens problems.

The role of the central office manager (National Base of Persian Garden) and the Technical-Strategic Council is to ensure the following cases:

- Coordination of protective operations and managerial decisions in all the nine nominated gardens
- Fair distribution of financial resources and specialist manpower in provincial bases
- Attracting the participation of local people and Vaqf administrators for expressing their views
- Presence of experts needed to resolve gardens' problems

- Monitoring projects effective on each individual garden
- Advancing research projects
- Continuance of education and introduction programs
- Continuing documentation and monitoring of gardens
- Balanced and coordinated touristic programs for gardens
- Appropriate functional usage of gardens in accordance with their individual cultural significance as well as their unique characteristics

As seen in the dispersion map of the nominated gardens, some provinces only have one garden but occasionally two gardens are located in one province such as Bagh-e Chehelsotun and Bagh-e Fin s in Isfahan province or Bagh-e Dolat Abad and Bagh-e Pahlavanpur gardens in Yazd province. As a result, the necessity of integrating managerial policy making for gardens as well the short geographical distance of these gardens led to the decision that their management must be done by a single provincial base but with close cooperation of the national base of Persian Garden.



**1. The Base of Persian garden, Fars:**

- Ancient garden of Pasargadae
- Bagh-e Eram, Shiraz

**2. The Base of Persian Garden, Isfahan:**

- Bagh-e Chehel Sotun, Isfahan
- Bagh-e Fin, Southern Kashan

**3. The Base of Bagh-e Abas Abad, Behshahr, Mazandaran**

**4. The Base of Bagh-e Shahzade, Mahan, Kerman**

**5. Base of Persian Garden, Yazd:**

- Bagh-e Dolat Abad , Yazd
- Bagh-e Pahlavanpur, Mehriz

**6. The Base of Bagh-e Akbariyeh, Birjand**

Fig.24 Nine nominated gardens managed by six provincial bases which are under supervision of the National base of Persian garden

But in provinces with only one nominated garden, there is a single base in which all the staffs are stationed. Generally, the National Base of Persian Garden has six branches across the country called provincial bases.

Regarding the supervision of ICHHTO over the performance of gardens, it must be mentioned that based on the following chart the manager of the National Base of Persian Garden is in contact with ICHHTO's head as well as related deputy organizations in order to inform them about various programs and their execution in a specialized manner.

As a result, measures of core and buffer zones as well as management plans prepared for gardens enjoy the legal and financial support of ICHHTO.

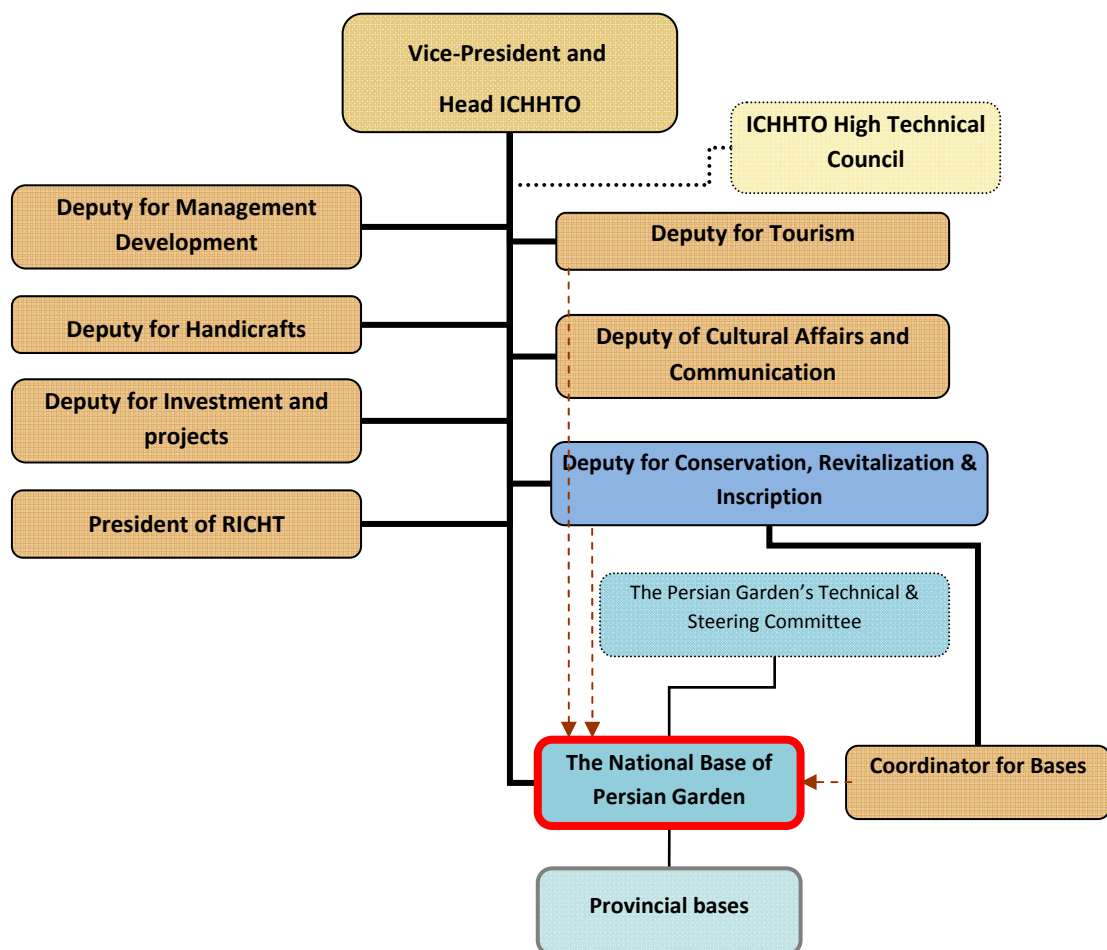


Fig.25. position of the Base of Persian Garden in the ICHHTO

- Management plans of each garden

Protective plans for each individual garden are prepared in accordance with specific problems and values of each one. But the overall management approach of gardens as the constituent parts of the nominated monuments is similar. During protective policy makings of gardens, the following principles are observed:

- Cooperation and consultation of all stakeholders
- Regular monitoring and documentation
- Reliance upon scientific and cultural values of gardens during management prioritization
- Balance between tourism and conservation in order to prevent negative effects of excessive tourism

In pages 687- 699 of the nomination dossier, short term (2 years), middle term (5 years) and long term (10 years) objectives for each individual garden has been mentioned. In the following, protective goals and plans for each garden given its values and characteristics as well as factors influencing it will be discussed.

- Ancient Garden of Pasargadae

Management plan of Ancient Garden of Pasargadae has been devised in the framework of the overall management plan of the world heritage site of Pasargadae. Of course, because Bagh-e Shahi of Pasargadae enjoys a good conservation condition, the priority here is coordinating its conservation policies with the other eight nominated gardens and introducing it as a prototype of Persian Garden. Additionally, botanic Archaeology has utmost importance for action plans of the Base.

Other priorities in conservation of the ancient garden of Pasargadae are: to decrease the effects of environmental factors such as lichen, growth of plants and weathering. Moreover, there are programs underway for better introduction of Chahar-bagh pattern in Ancient Garden of Pasargadae. Modifying the number of tourists and redirecting visitors particularly during Norooz (Iranian New Year) are among other conservation priorities of

Pasargadae. Also on the agenda are: reorganizing the axis ending in Pasargadae, continuing regular monitorings, documentation programs as well as research projects.

- Bagh-e Eram

Conservation operations in Bagh-e Eram are within the duties of Fars Provincial Base as well as Bagh-e Eram Management Center which enjoys financial specialized and research support of Shiraz University. In defining the management priorities of Bagh-e Eram it is attempted to maintain existing botanical variety and to balance tourism. As always protection of cultural and scientific values is important in the overall policy making approach of Bagh-e Eram which also applies to other gardens. Because Bagh-e Eram is located within the city fabric of Shiraz, continued monitoring of urban development process regarding the landscape surrounding the garden as well as at the direction of the axis ending in the garden is necessary.

- Bagh-e Chehelsotun

Bagh-e Chehelsotun is situated at the historical heart of Isfahan and is actually part of the Safavid garden-town. The main priority in the conservation of Bagh-e Chehelsotun is transforming the street in its south to a walkway as well as the integration of the garden with its historical bed. This plan has been ratified within the framework of reorganizing the historical fabric of Isfahan. Conservation, restoration and revitalization of part of irrigation canals in which archaeological excavations have already finished are also high on the agenda. Because the pavilion of Bagh-e Chehelsotun has outstanding painting decorations, its next priority is protecting its cultural, historical and aesthetical values. Results of botanical studies conducted here are also being reviewed. In addition, the Bagh-e Chehelsotun

Base has the duty of continued archaeological investigations here as well as an action plan for balancing the number of tourists and redirecting visitors especially at the peak seasons such as Norooz.

- Bagh-e Fin

Among major priorities of conservation operations in Bagh-e Fin are: protecting its historical water reservoir i.e.: chesmeh Soleymanieh Qanat as well as substituting plague-stricken trees with healthy ones. During the substitution, it has been tried to select those tree species that are in harmony with the rest of garden vegetation regarding age, race and height. At present, around 80 trees from other nearby gardens have been identified to replace the dry trees of Bagh-e Fin. These soon to be replaced trees are exactly similar to original trees of Bagh-e Fin. Additionally; a location near the garden has been allocated to cultivation of trees. A team consisted of gardening and natural resources experts at local and national levels is currently studying the plants and soil of Bagh-e Fin for providing precise protective guidelines in order to hinder further damage.

Among next priorities of Bagh-e Eram Base are: reorganization of car park area and nearby vacant lands as well as building repairs and regular re-appliance of Kahgel to garden walls. In addition, redirecting and balancing tourists particularly during Golab-geeri season and Norooz have been on the agenda of the Base.

- Abbas-abad Garden

The main factor contributing to the prominence of Bagh-e Abbas Abad is its being within a forest environment as well as its archaeological and historical significance. Management policies of Bagh-e Abbas Abad attempt to give priority to conservation of what makes the garden valuable. As mentioned before, Bagh-e Abbas Abad is different from all the other nominated gardens which are located in desert lands. But natural attractions of the region have led to the increase in the number of visitors as well as the activity of travel agents. Therefore, among executive priorities of Bagh-e Abbas Abad Base are balancing and redirecting tourists. Particularly, after each rain limitations are imposed on the number of tourists entering the garden area. Maintaining the structures comprising the garden and making them legible are other important points to be taken into account in conservation plans and



archeological studies. Continuance of archaeological investigations is also on the agenda of Bagh-e Abbas Abad Base.

- Bagh-e Shahzadeh

Although Bagh-e Shahzadeh is located in the countryside and has been relatively safe from urban development but due to its cultural and touristic attraction, it is vulnerable to the expansion of tourism. Therefore, the main policy in relevant decision makings is monitoring and decreasing the negative effects of tourism upon core and buffer zones of the garden. The next priority is to keep authentic the natural context surrounding the garden as well as to protect Tigran Qanat which remains the main water source for Bagh-e Shahzadeh Garden. In addition to the above mentioned points, introducing garden values and preparing it for receiving and controlling tourists are among activities underway in this garden. Other works on the agenda of Bagh-e Shahzadeh Garden

Base are: supporting traditional gardeners and elevating the level of their knowledge as well as training the local youth beside veteran gardeners.

- Dolat-abad Garden

Negotiation with Vaqf custodians to gain better coordination for decision makings is considered as the first priority of Bagh-e Dolat Abadmanagers. Among other tasks on the agenda are: studying the potential solutions for revitalization of its historical water source (Dolat Abad Qanat) which is currently underway with the partnership of the International Center of Qanat founded with UNESCO support. Also controlling and directing tourism during Norooz, coordination of tourism plans of the garden with the visitors' program of Yazd Province as well as Persian Garden Tourism Plan and finally continued research and documentation about garden architecture and the surrounding fabric of the garden in order to revive the historical access route to the garden are other issues on the agenda.

Furthermore, restoration of the inner water circulation system of the garden and restoration of the winter mansion decorations are among priorities of Yazd Province Base.

- Bagh-e Pahlavanpur

Because Bagh-e Pahlavanpur has kept its vitality and authenticity as a rural garden, the priority of Bagh-e Pahlavanpur

Base is keeping the present state as well as constant maintaining and monitoring of the garden. Additionally, high on agenda is the restoration of Kahgel coatings of alleyways within its buffer zone which includes the rural fabric around the garden in order to reorganizing the route leading to it.

Among other issues to be taken into account are: botanical pathology and monitoring, remodeling of garden structures for improving its visual condition as well as continuance of restoring moistened walls.

- Akbarieh Garden

The main priority in conservation of Bagh-e Akbarieh is substituting (re-planting) healthy plants with damaged ones after necessary investigations conducted by Birjand University and Bagh-e Akbarieh Base. Other issues on the agenda of the Base include: continuance of monitoring the health condition of garden plants, controlling the buffer zone of the garden, carrying on with monitoring the level and ingredients of Qanat water, safeguarding the remaining rural fabric adjacent to the garden because it represents part of the fabric in which the garden was located, replacing the space of the archaeological museum with a resting place for gardeners as well as regular sessions with them and finally arranging an exhibition showing the botanical variety of historical gardens of the province.