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**Original Research Article**

# Reconstructing the Structure and Analyzing the Spatial Organization of the Historical Garden of Emadiyeh, on the *Qara-Su* Riverside in Kermanshah

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Abstract | The Persian Garden (*Bagh*) is recognized as one of the types of historical gardens in the world. Historical Persian gardens display considerable diversity and have been constructed under different conditions and locations. Some of these gardens were established along riversides and adjacent to water bodies in order to benefit from their Garden Landscape. These historical gardens have been created since distant times across various geographical regions of Iran and its surrounding areas. One of these gardens, built in the late nineteenth century CE on the northern front of the *Qara-Su* River in Kermanshah, is the *Emadiyeh* Garden. This garden has now disappeared, and no physical trace of it remains; however, in this research, it is identified and analyzed for the first time. The reconstruction of this garden has been carried out through the examination of the oldest available aerial photographs, the iconographic comparison of remaining historical images from the past, a review of existing historical narratives about the garden, the comparison of geographical maps, and field visits to the garden's site. Based on these sources, the plan of the garden has been drawn according to its actual scale and location. The reconstruction of the structure and the preparation of the plan of *Emadiyeh* Garden, through the analysis of the available documents, indicate that this garden, due to its exceptional location along the river front and its innovative design, despite its particular and distinctive function within the social and cultural context of the Qajar period, Kermanshah, represents a rare and highly significant example of Persian garden making. It presents a unique pattern of adjacency between a garden and a river, an example that has so far remained largely unnoticed and can be introduced as one of the diverse models of Persian garden design. The remarkable scale of the garden and the distinctive organization of functions within the domains of *Andaruni* (inner part) and *Khalvat* (private part) in this khani garden are among its prominent characteristics. Moreover, the notable location and design of the Throne Dais Pavilion (*Shah neshin*) of the garden on the coast of the *Qara-Su* River constitute a unique model in terms of landscape design and architectural composition.

Keywords | *Persian Garden, Coastal garden, Garden Landscape, Private (Khalvat), Intangible Heritage.*

## Introduction

*"Whoever has remained far from his origin will seek the time of reunion again with it".*

Most historical gardens of Iran were established on the internal plateau and at a distance from the fronts of the seas surrounding the geography of the Iranian plateau. However, a limited number of these gardens were constructed along the fronts of seas, rivers, ponds, and large water reservoirs. While maintaining the recognized patterns of historical Persian Garden design, they also established a meaningful relationship with the adjacent water body.

Examples of historical gardens located next to a riverside or other aquatic settings have been created from ancient times up to the twentieth century CE across the geographical

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territory of both historical and contemporary Iran, and they display considerable diversity in their design forms. Among the earliest gardens of the pre Islamic period that were located along riversides are the garden of the Tomb of Cyrus at Pasargadae beside the *Pulvar* River in Fars Province (Fig. 1), and the garden of Ctesiphon (or Mada'in) on the eastern front of the Tigris River (Fig. 2). Unfortunately, aside from conjecture, complete information about the manner of their relationship with their adjacent rivers is not available.

Other examples include the Balkuwara Palace and its surrounding garden from the period of al Mutawakkil, one of the Abbasid caliphs, located on the eastern front of the Tigris River in Samarra, Iraq (Fig. 3), and the Taj Mahal, built in the seventeenth century CE on the southern bank of the Yamuna River in Agra, India (Fig. 4). Both followed the pattern of the Persian Garden and were designed and constructed beside a river.

During the same period, around the seventeenth century CE and during the reign of Shah Abbas of the Safavid dynasty, a diverse range of gardens was established along the bank of the *Zayandeh* River in Isfahan. Among them, the gardens of *Farahabad* and *Sa'adat Abad* on the southern bank of this river are notable examples (Fig. 5).

*Farahabad* Garden of Isfahan was one of the largest royal historical Persian Gardens of Iran during the Safavid period, constructed on the southern front of the *Zayandeh* River at that time; unfortunately, no physical remains of it survive today. The width of this garden extended along the riverside, while its length stretched along the slope toward the southern mountains of Isfahan. Its main buildings and pavilions were located along the principal axis at the highest point in the southern foothills of Isfahan. For this reason, it likely possessed an exceptional Garden Landscape facing north toward the *Zayandeh* River (Fig. 6).

Although *Farahabad* Garden in Isfahan has disappeared, something resembling its landscape experience may perhaps be observed in another garden. The principal

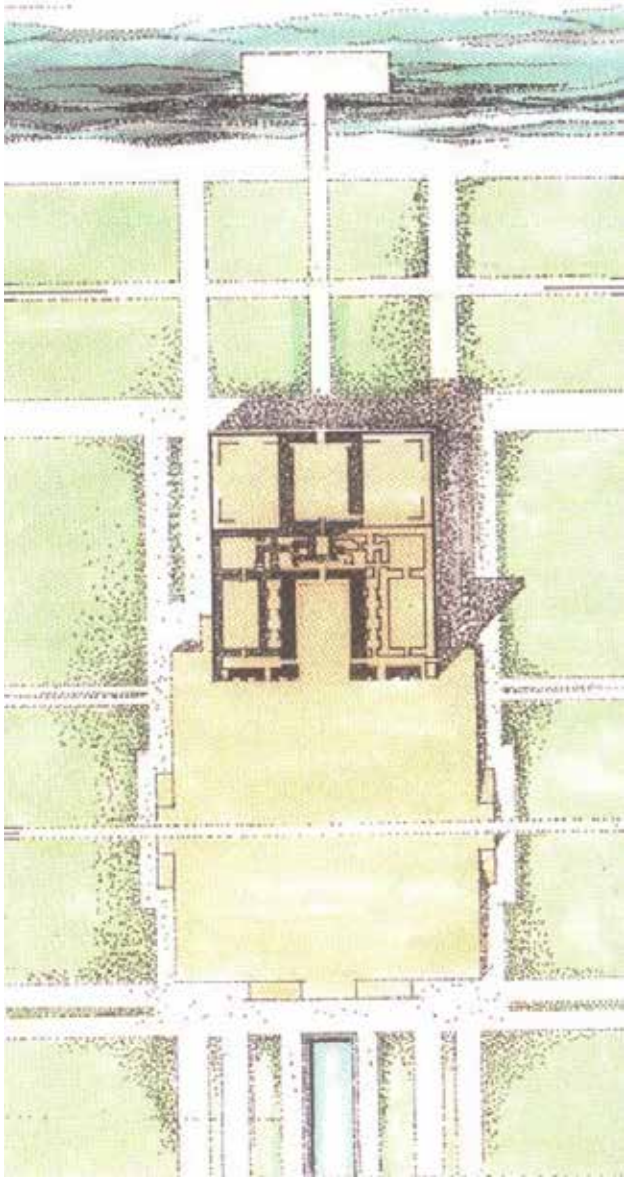

Fig. 2. Location of the Ctesiphon Garden on the eastern riverside of the Tigris River. Source: Khansari et al., 2004.

Fig. 1. Location of the Tomb of Cyrus on the eastern riverside of the *Pulvar* River (Pasargadae). Source: Schmidt, 1940.

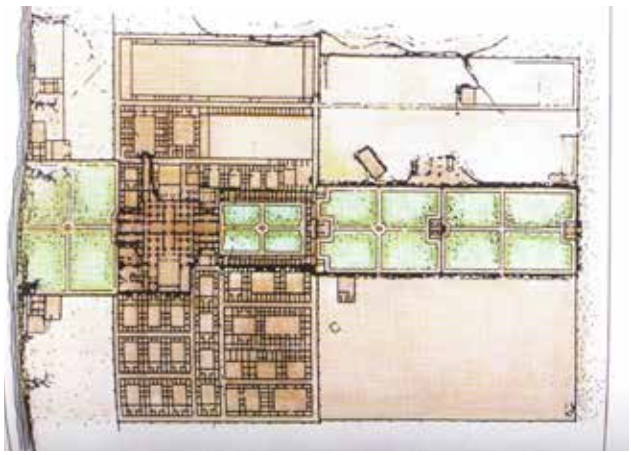

Fig. 3. Plan of the Balkuwara Garden and Palace east of the Tigris River in Samarra, Iraq. Source: Khansari et al., 2004.

Fig. 4. Aerial view of the Taj Mahal Garden and Palace south of the Yamuna River in Agra, India. Source: Google earth.


Fig. 5. Map of Isfahan in the early twentieth century. Source: Authors based on Beaudouin, 1933.

landscape of the Iranian National Garden in Ramsar, designed during the early twentieth century CE, facing the Caspian Sea, shows certain similarities to the *Farahabad* Garden of Isfahan (Fig. 7). Ramsar National Garden has a longitudinal axis extending from the mountain toward the Caspian Sea and includes a relatively large building located at its highest point in the southern foothills facing the sea. From this building, a deep visual perspective toward the water can be experienced (Fig. 8).

However, during the Safavid period in Isfahan, another garden known as *Sa'adat Abad* Garden was also constructed on the southern front of the *Zayandeh* River (Fig. 5). Owing to the design and location of its famous *Aineh Khaneh* pavilion, it established a stronger and more meaningful relationship with the *Zayandeh* River (Fig. 9).

*Sa'adat Abad* Garden possessed an axis perpendicular to the *Zayandeh* River, in such a way that its terminal pavilion was positioned along this axis, this time not at a distance but directly on the bank of the river (Figs. 10 & 11). The terminal pavilion of this garden, known as the *Aineh Khaneh*, with its large and elevated

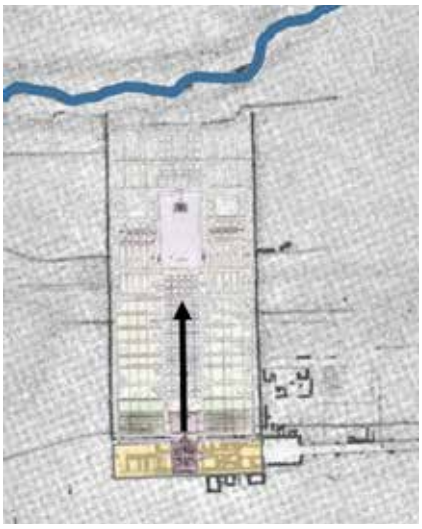

Fig. 6. *Farahabad* Garden of Isfahan and the orientation of its southern pavilions facing the *Zayandeh* River.
Source: Authors based on Beaudouin, 1933.

Fig. 7. Aerial photograph of the coastal Ramsar National Garden on the Caspian Sea. Source: National Cartographic Center of Iran, aerial photography date: 1956.

Fig. 8. View of the Ramsar National Garden from the terminal pavilion facing the Caspian Sea. Source: www.alamy.com.

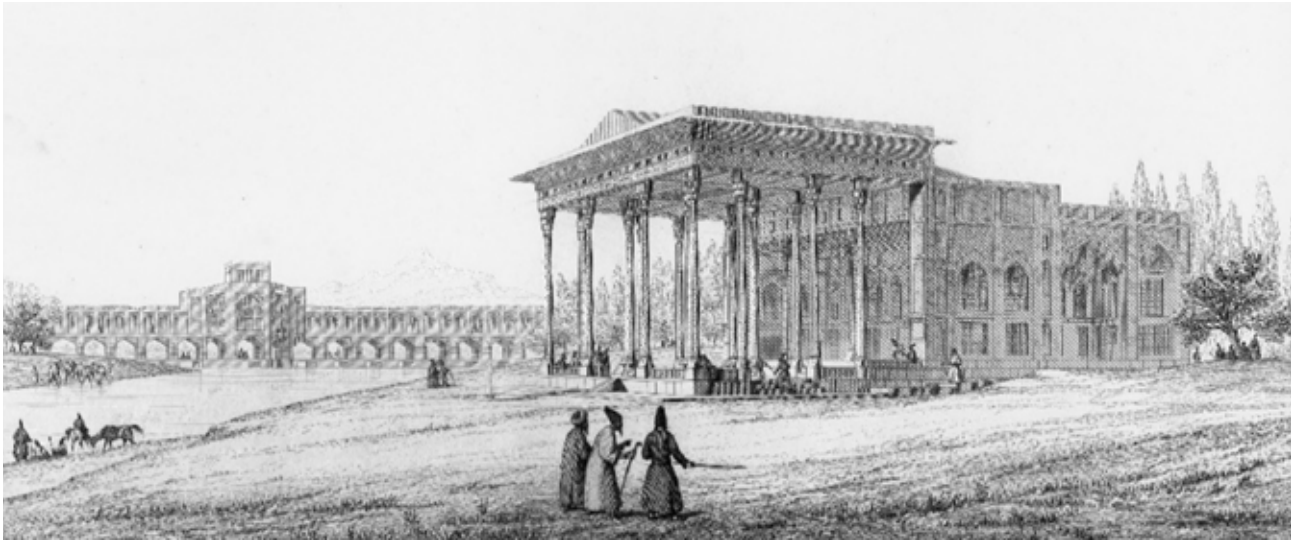

Fig. 9. The *Aineh Khaneh* Pavilion (the Mirror pavilion) in *Sa'adat Abad* Garden on the southern bank of the *Zayandeh* River in Isfahan. Source: Coste, 1867.

Fig. 10. *Sa'adat Abad* Garden of Isfahan on the southern front of the *Zayandeh* River and the location of the *Aineh Khaneh* (the Mirror pavilion). Source: Authors based on visual documents Mehryar et al., 1999.

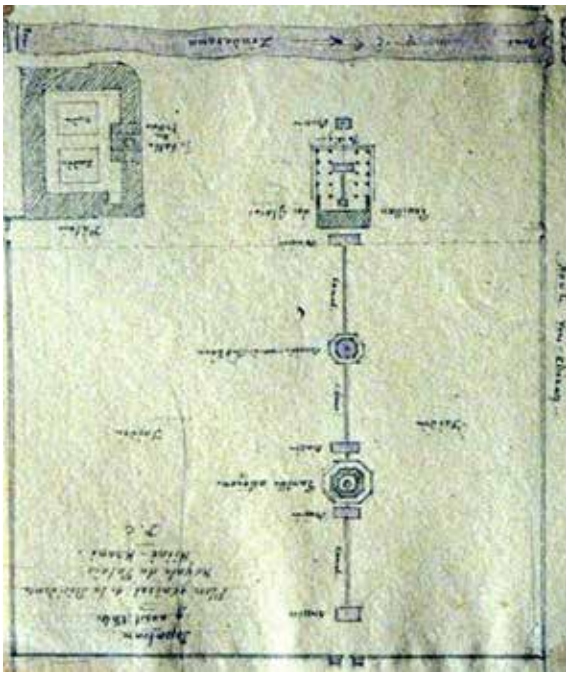

Fig. 11. Approximate plan of *Sa'adat Abad* Garden on the southern riverside of the *Zayandeh* River in Isfahan. Source: Conan, 2007.

veranda at the end of the main axis, was oriented with its back toward the garden and facing north toward the *Zayandeh* River. From this veranda, not only the view of the river but also the general panorama of the city could be observed (Fig. 12).

At the height of the flourishing of *Sa'adat Abad* Garden, the gates of *Khaju* Bridge on the *Zayandeh* River, located downstream from the garden, were closed like a dam, allowing the river water behind it to form a calm lake. This artificial lake was used for boating, water storage, scenic views, and water reflections (Fig. 13). Unfortunately, no remains of this garden or its magnificent building exist today.

Another remarkable example, which may be considered one of the most beautiful instances of coastal historical gardens from the Safavid period, is the royal *Farahabad* Garden of Sari. The conditions of its terminal building bear strong similarities to *Emadiyeh* Garden of Kermanshah. This garden is located on the western front of the *Tajan* River near the shores of the Caspian Sea in the city of *Farahabad*, Sari (Fig. 14).

The main building of this garden, similar to *Sa'adat Abad* Garden, is situated beside the river, with the difference that it is almost directly attached to it and positioned at a relatively elevated location. The width and bed of the river within the garden's area were expanded and deepened so that throughout the year, this part of the river maintained calm water suitable for viewing and boating. The garden grounds are approximately 15 meters higher than the river's water level.

Along the central axis of the garden, directly adjacent to the river, a multi storey building was constructed, which overlooked the river on one side and the garden on the other. In none of the coastal Safavid gardens previously mentioned was such a strong relationship established between the garden, its main building, and the adjacent water body. The scenery of this garden was depicted from different perspectives by travelers and explorers who observed it during that period and in later times (Fig. 15).

## Research Hypothesis and Questions

Apart from the examples mentioned in the previous section, prior to this study, no other examples of historical Persian Gardens designed along riversides or adjacent to water bodies from the nineteenth century CE (Qajar period) had been identified. Moreover, in previous studies conducted to identify the lost historical gardens of Iran (Alai & Alai, 2025), *Emadiyeh* Garden of Kermanshah was introduced as one of the unknown and vanished historical gardens whose physical and historical characteristics had not been clearly determined. Therefore, considering the limited number of recognized historical gardens in western Iran, particularly in Kermanshah, the absence

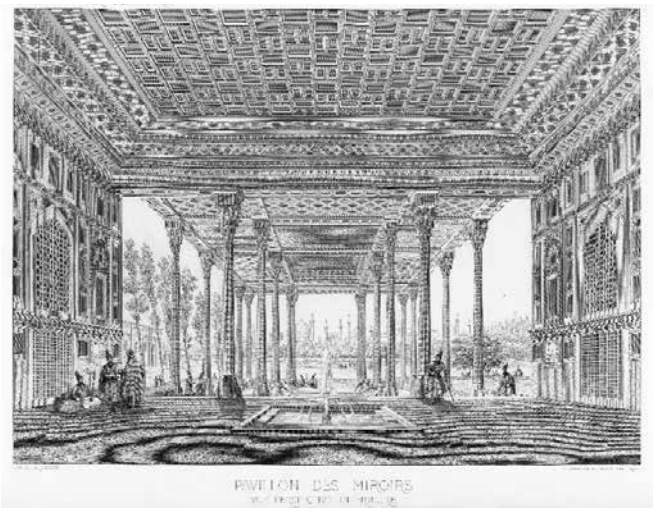


Fig.12. View of the *Zayandeh* River and the general landscape of Isfahan from the veranda of the *Aineh Khaneh*. Source: Coste, 1867.

Fig. 13. The *Aineh Khaneh* Pavilion on the riverside of the *Zayandeh* River. Source: Holtzer, 1976.

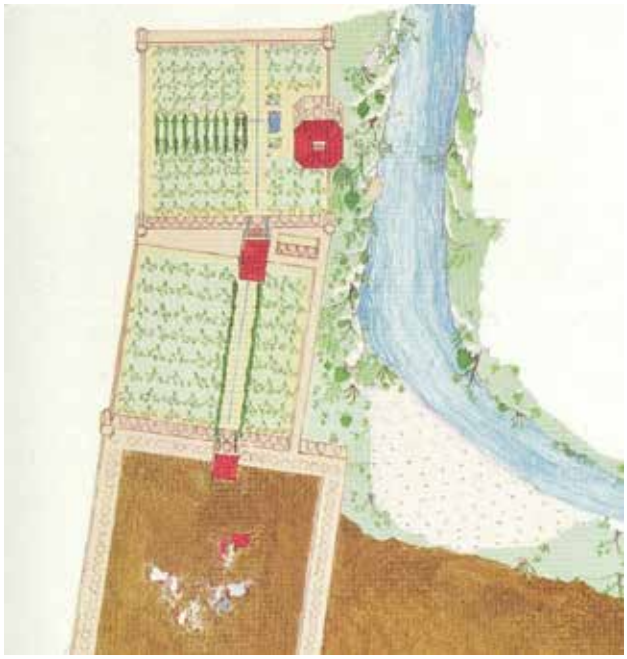

Fig. 14. Three-dimensional plan of *Farahabad* Garden of Sari in the *Farahabad* Historical Complex. Source: Alemi, 2012.

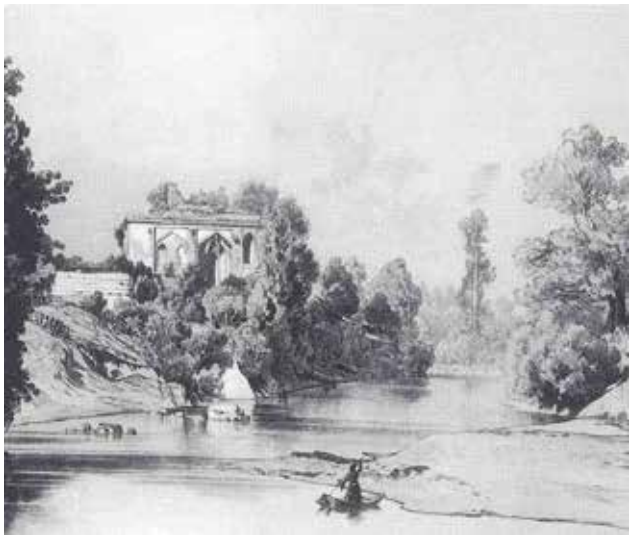

Fig. 15. Drawing by Jules Laurens of the Jahan-Nama Pavilion of *Farahabad* Garden beside the Tajan River. Source: Alemi, 2012.

of identified examples of historical gardens located along riversides or adjacent to water bodies during the Qajar period, and the lack of any prior research on *Emadiyeh* Garden, the study and re examination of *Emadiyeh* Garden of Kermanshah was selected as the central focus of this research.

The questions raised by the authors prior to beginning the research included the following: To which historical period did this garden belong, and who were its owners or founders? What was its function? Where exactly was the location of *Emadiyeh* Garden? What was the design and spatial organization of the garden? Was the building occasionally mentioned in certain sources as the *Emadiyeh* building beside the *Qara-Su* River actually part of this garden? What was the relationship between this building and the other parts of the garden? If *Emadiyeh* Garden could indeed be considered one of the examples of historical Persian Gardens, what were its architectural qualitative and quantitative characteristics?

These were important questions for which no one had clear answers, and no reliable sources had addressed them. The most important question, however, was whether this garden had been constructed in this location along the bank of the *Qara-Su* River in order to make the best use of the river landscape, or whether no meaningful relationship existed between the garden and the river.

Before the present research was conducted, none of these questions had clear answers. The authors hoped that through the examination of documents and evidence, as well as field investigations, they would be able to find answers to these questions. Accordingly, by following the stages outlined below, the authors sought to collect and analyze information in order to reconstruct this historical Persian Garden and subsequently analyze and examine its design.

## Research Method

The process of data collection in this study was carried out in five main layers as follows. First, library and documentary studies were conducted to extract contextual data, including identification information, historical background, and functional characteristics. Second, the oldest available aerial photographs were visually matched with the present spatial context in order to extract location and dimensional data for the reconstruction and drawing of the garden plan. Third, field observations and documentation of the remaining traces of the garden at the site were undertaken. Fourth, historical images obtained from the *Golestan* Palace Album House were examined, and an iconographic comparison of these images was conducted with one another, with aerial photographs, and with the current natural landscape, including the form of mountains, stable landscape horizons, and the location of the city and the river, through the position of natural and built elements and viewing angles. Finally, interviews were conducted with local residents and elderly inhabitants of the area to verify the accuracy of the collected information, to reconstruct the vanished spaces in memory, and to compare oral narratives with physical realities.

Through this approach, it was first possible to achieve a comprehensive and accurate reinterpretation of the site, and second, based on these integrated data, to enable the analysis of the architectural structure and spatial organization of the garden in the subsequent sections. This integrated process was pursued not only to reconstruct the geometric and spatial structure of the garden but also to clarify the historical position and typological significance of *Emadiyeh* Garden within the regional tradition of Persian Garden design. Accordingly, the research method began with a historical–interpretive approach and was ultimately completed through a descriptive–analytical framework.

## History and Function of the Garden

*Emadiyeh* Garden was one of the initiatives of Imamqoli Mirza Emad al Dowleh, a prominent statesman of the Qajar period. During nearly twenty-four years of intermittent governance over western Iran and Kermanshah, Emad al Dowleh undertook various infrastructural activities and made efforts in the construction, repair, and restoration of residential, governmental, and religious buildings, as well as bazaars, caravanserais, and commercial complexes. One of his initiatives was the construction of *Emadiyeh* Garden in the northern area of the city of Kermanshah.

Historical texts indicate that outside the urban territory, on the left bank of the Qara-Su River, between the old *Sheikh Alikhani* Bridge and the new bridge, he built the *Emadiyeh* building. There is no precise information about the starting or completion date of the construction of *Emadiyeh* Garden. However, the garden was at the height

of its prosperity in 1870 CE, at the time of Naser al Din Shah Qajar's visit to Kermanshah. During that visit, the garden was used as the residence and reception venue for the king and his companions; therefore, it can be assumed that several years had already passed since its completion.

Since Colonel Chirikov, a Russian officer who visited Kermanshah in 1851 CE, did not refer to this complex (Keshavarz, 2003, 59), the period of its construction may be estimated between 1851 and 1866 CE. After the death of Emad al Dowleh, *Emadiyeh* Garden remained standing for more than fifty years.

As Seyyed Abdolkarim Gheyrat Kermanshahi notes in the first decade of the fourteenth century SH in his collected works, he speaks of the indescribable beauty of this garden and the palace within it. Gheyrat, who was among the constitutionalists of the late Qajar period, also refers to a different social function of the garden during that time:

"I shall never forget the memories of the nights at *Emadiyeh*. This palace, with all its grandeur and magnificence, was dedicated to both the elite and the common people, and generously served as a place of pleasure and festivity for all social classes. Anyone, in whatever dress or condition, could in any of its rooms overlooking the garden landscapes of this royal residence spread their gathering of joy and amusement and pass days and nights there. No one had the power to prevent them, nor the courage to disturb them. Even at the height and intensity of despotism, the table of benevolence and care for the people was spread through such means. In reality, the palace of Emadiyeh functioned as a kind of public garden -something we have heard described by those who had traveled to Europe, yet during the Constitutional era we had not seen its like anywhere in the country" (ibid., 61).

It appears that during this period, gradually, due to the lack of attention from the heirs and also the absence of official registration as an endowment or as part of the national heritage list, *Emadiyeh* Garden fell into decline and disappeared. In the aerial photograph of 1956 CE, little trace of this complex remains (Fig. 17). Field visits by the authors to the site also revealed no visible remains except fragments of stones and bricks. Therefore, it appears that *Emadiyeh* Garden had been completely destroyed by around the early twentieth century CE. Accordingly, the lifespan of *Emadiyeh* Garden can be estimated to be about ninety years, from the mid nineteenth century CE until the mid twentieth century CE.

## Location and Dimensions of the Garden

Through the investigations conducted by the authors using the oldest aerial photographs of northern Kermanshah and the surrounding area of the *Qara-Su* River, and by matching them with historical photographs and the surrounding landscapes of the garden, the approximate boundaries of *Emadiyeh* Garden were ultimately identified in the northern part of Kermanshah, on the northern side of the *Qara-Su* River(Fig. 16).

*Emadiyeh* Garden was located approximately 6 kilometers outside the city, to the northeast of Kermanshah, between the city of Kermanshah and Mount *Bisotun*, along the northern bank of the *Qara-Su* River in an area where the

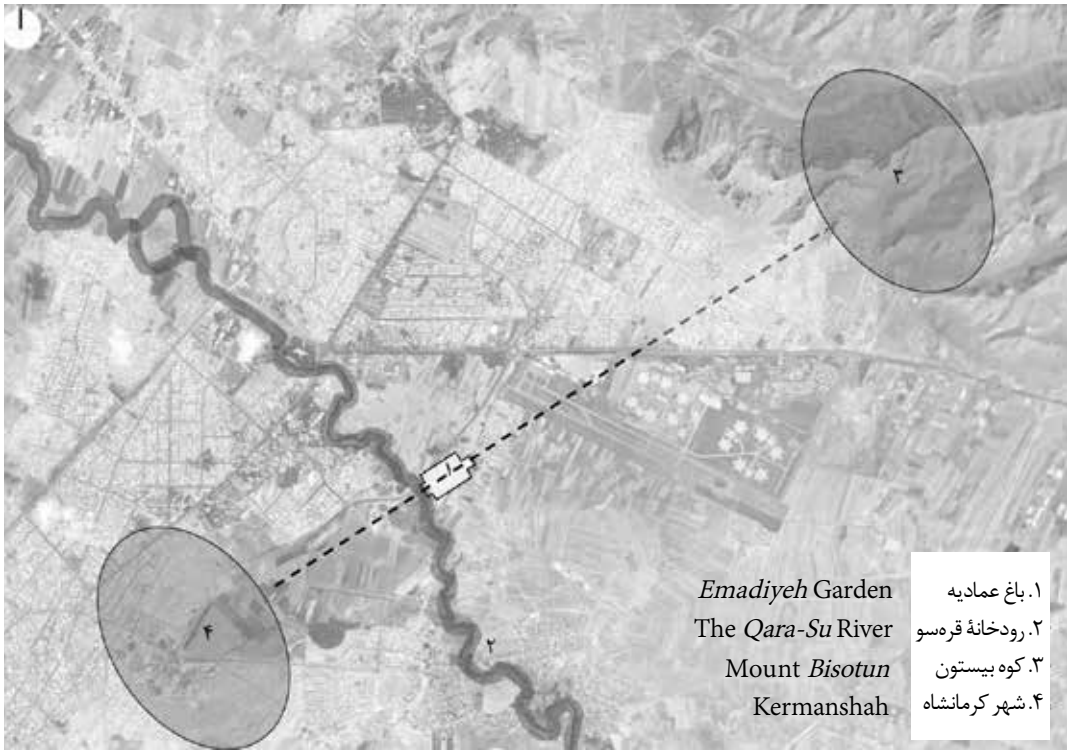


Fig. 16. Location of *Emadiyeh* Garden in relation to the city of Kermanshah and Mount *Bisotun*. Source: Authors based on Google Earth.

river forms a wide outer curve (Fig. 17). During field visits conducted by the authors to the site of the garden, it was observed that the bed of the *Qara-Su* River at this location lies approximately 10 meters lower than the surrounding lands. According to interviews with local residents, the width of the river's water basin in certain seasons of the year reached about 50 meters.

Based on the traces of the garden visible in the 1956 CE aerial photograph, the longitudinal axis of the garden extended in one direction toward the *Bisotun* Mountains in the northeast and in the opposite direction toward the southwest and the city of Kermanshah.

By matching the aerial photograph with existing real world measurements, it was determined that *Emadiyeh* Garden measured approximately 640 meters in length and 340 meters in width along its largest axes, with a total area of about 18.5 hectares. The ground surface of the garden had a very gentle slope (less than 1%), descending from the northern (upper) side toward the southern edge of the riverbank (lower side).

## Structure and Overall Organization of the Garden

From the boundary lines of the garden visible in the 1956 CE aerial photograph, it can be observed that the garden consisted of two main sections:1. a smaller northeastern section, and 2. a larger southwestern section (Fig. 17).

Furthermore, based on findings derived from the study of available historical texts concerning *Emadiyeh* Garden, it became clear that the northern section functioned as the *Andaruni* (inner residential quarter), while the southern section formed the main garden enclosure or the Backyard Garden (*Khalvat*).

From written descriptions, it appears that the *Andaruni* section functioned as the entrance forecourt of the garden and was allocated to service and residential uses for the inhabitants and attendants. This section contained a variety of spaces and courtyards, including rooms, halls, courtyards, pools, ponds, water features, a mosque, a bathhouse, a *zurkhaneh*, a bakery, and various shops (ibid., 60).

Naser al Din Shah Qajar (1984, 63) also described the *Andaruni* section of the garden as follows:

" There is a gateway on that side which leads to the *Andaruni*. The *Andaruni* building itself is well designed and richly furnished. It is a building constructed with fine arrangements and elegant forms. It has a good bathhouse. I went inside and observed the building; the sleeping quarters and the rooms for the servants of the royal household are arranged in separate private spaces".

Unfortunately, little physical information about the *Andaruni* section is available, except for a vague trace of surrounding walls visible in the 1956 CE aerial photograph (Fig. 18). Based on the remaining traces of these surrounding walls in the aerial image, the *Andaruni* section appears to have been constructed on a rectangular plot measuring approximately 130 by 110 meters, with an area of about 1.5 hectares. This section was separated from the southern and main part of the garden by a high enclosing wall and a two storey entrance building located at its center (Fig. 19).

The southern section, which constituted the main part of the complex, formed the principal garden enclosure and was primarily used by guests or by the owner and patron of the garden. In the terminology of Persian gardens, this section is known as the Backyard Garden (*Khalvat*) (Khoei & Garavandpoor, 2011, 16). The main section measured approximately 530 by 340 meters, covering an area of about 17 hectares, and was connected on one side to the *Andaruni* section and on

Fig. 17. Aerial photograph of the *Emadiyeh* Garden area in 1956 CE. Source: Authors based on the National Cartographic Center of Iran.

Figure 18. Aerial photograph of the *Andaruni* area (inner part) of *Emadiyeh* Garden in 1956 CE. Source: National Cartographic Center of Iran.

the other side to the *Qara-Su* River. The main garden can be examined in four principal components:

**• Entrance building to the main garden**

The entrance building leading from the *Andaruni* to the main garden possessed an interesting and distinctive architectural composition. As shown in Fig. 19, the architectural design of this structure and its surroundings indicates a relative separation between the *Andaruni* section and the main garden.

The entrance building was located precisely along the central axis of the garden and consisted of a two storey structure whose upper floor contained an elongated veranda facing the main garden. No windows or doors facing the main garden are visible except for the entrance door on the ground floor and small lighting openings positioned high on the walls. The walls separating the main garden from the *Andaruni* were also higher than the typical height of a single storey.

This condition may have resulted from the two storey buildings of the *Andaruni* section, as well as from the intention to create a higher protective barrier between the main garden and the inner residential area. Such an arrangement would have ensured greater separation of the main garden from the view of the residents, reinforcing the private and secluded character (*Khalvat*) of the principal garden space.

**• The central axis of the main gGarden**

The spatial organization of the main garden consisted of a primary longitudinal axis, including a pedestrian pathway with a water channel running along its center, extending from north to south. This axis began at the entrance building located between the *Andaruni* and the main garden and extended southward toward the vicinity of the *Qara-Su* River (Fig. 19).

The central path was approximately 490 meters in length and about 35 meters in width. In addition to two pedestrian walkways on its sides and a water channel in the center, the axis contained three pools or basins. One pool was located at the base of the entrance building, another at the base of the terminal pavilion at the far end of the garden, and the main basin, resembling a large rectangular pool measuring approximately 30 by 20 meters, was positioned roughly in the middle third of the axis, closer to the southern end of the garden. On both sides of this large central pool, there were two spacious platforms (Fig. 20).

This arrangement indicates that the central pool of the garden served as an important focal point. Considering the platforms located beside it, these spaces were likely intended for gatherings or temporary accommodation of guests in the open air. Visitors may have observed the pool and the surrounding garden landscape from these platforms, possibly under tents erected upon them.

All three pools were strategically placed to enhance visual perspectives, emphasize the main axis of the garden, and complement the architectural composition of both the entrance building and the terminal pavilion. In addition to these aesthetic and spatial roles, the pools and water features also served practical functions, including the supply of water for irrigating the garden vegetation and providing water for the needs of the inhabitants.

The water channel, together with the pools and the wide pathway designed in a manner similar to a complete *chaharbagh* arrangement, formed the longitudinal axis of the main garden. With this elaborate design, the central axis functioned as the principal promenade of the garden, where residents and guests could stroll and enjoy the surroundings. On one side were dense rows of trees, on another the flowing water and small cascades, and on the other side beds of flowers and fragrant herbs, creating a rich and pleasant garden landscape.

The pedestrian paths on both sides of the central axis each contained elongated planting beds along their length. As a result, each side path was divided into two separate passageways, effectively transforming the central axis into a four part avenue resembling a *chaharbagh* street.

Because of the very gentle slope of the site, the central axis did not include any terracing, steps, or stone paving. The only level changes appeared within the bed of the central water channel, which consisted of small stepped

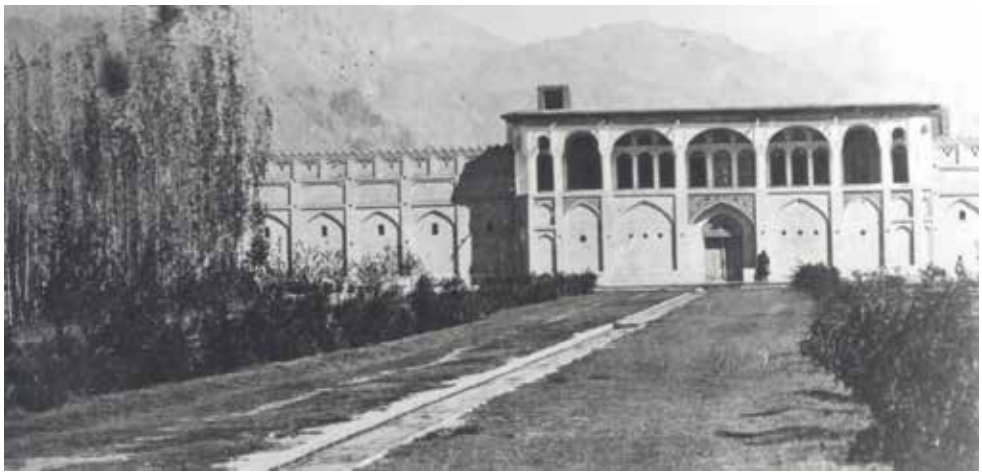

Fig. 19. The entrance building to the main garden, located between the *Andaruni* (inner part) Garden and the main garden. Source: Golestan Palace Album House.

cascades approximately 10–15 centimeters high at regular intervals. Accordingly, throughout the garden's planting beds and internal pathways, no steps or level differences were present apart from those within the central channel (Fig. 19).

The central water channel extended along the entire longitudinal axis of the garden, flowing from the pool in front of the entrance building to the pool in front of the terminal pavilion at the southern end of the garden (Fig. 20).

**• Tree plots**

Based on the available images, *Emadiyeh* Garden contained two large tree plots located on both sides of the central axis of the main garden. The surviving images indicate that these plots were entirely devoted to the cultivation of so called industrial trees such as poplars (Fig. 20).

Through the dense planting of such trees within the garden grounds, the patron of the garden appears to have pursued a dual purpose. On the one hand, the trees created a dense green landscape resembling a small forest, forming an extensive and visually rich environment. On the other hand, the sale of timber from these trees likely helped finance the maintenance and expenses of the garden.

Other types of trees were also planted around and near the main pavilion and along the central axis, probably to provide variety and visual appeal within the garden landscape (Fig. 19). It is also possible that in the area surrounding the central pool, there existed a secondary axis perpendicular to the main axis, which may have divided the two large plots into smaller sections and facilitated easier access to them. However, no reliable evidence currently confirms this assumption.

**• The throne dais pavilion (*Shah neshin*) and the flanking pavilions**

The earliest photographs attributed to *Emadiyeh* Garden that were identified by the authors depict a building located beside a river, which historical sources referred to as the *Emadiyeh* Palace or *Emadiyeh* Pavilion (Fig. 21).

Until a clear relationship between this structure and the garden grounds had been established, the authors could not confidently determine whether this building actually belonged to *Emadiyeh* Garden. However, during the course of the present research, the discovery of photographs taken from behind a building with a striking resemblance to that structure (Fig. 22), along with the visible pedestrian axes, water channels, and garden plots of *Emadiyeh* Garden, clarified the matter. It became evident that this building was in fact the terminal pavilion of the garden, known as the Emad al Dowleh Pavilion.

Even in the 1956 CE aerial photograph, although only with difficulty, the approximate location of this structure and the traces of its ruined walls and enclosures can still be discerned along the *Qara-Su* River (Fig. 23).

Thus, at the end of the central axis of the garden, beside the *Qara-Su* River, there stood a large and elevated pavilion facing the river, known as the Emad al Dowleh Palace or *Emadiyeh* Pavilion. Naser al Din Shah Qajar (1984, 63) described this building as follows:

"The Emad al Dowleh pavilion is located beside the *Qara-Su* River. […] It is a large river. Although in this season its water is reduced, it still carries more than twenty sangs[1] of water. In spring, it cannot be crossed. It contains many kinds of ducks and large fish. On the other side of the river, some meadows and plains extend toward the city of Kermanshah… The

Fig. 20. The central axis of *Emadiyeh* Garden facing north toward the entrance of the *Andaruni* (inner part). Source: Golestan Palace Album House.

*Emadiyeh* pavilion has a fine view toward Kermanshah… The outer pavilion overlooking the *Qara-Su* is also a fine building. It has been constructed in three levels. It contains a reception hall, sleeping chambers, and comfortable rooms, all well decorated. However, since it faces west, from about four hours before sunset, the sunlight reaches all of the rooms".

From this point onward in the article, the Emad al Dowleh Pavilion will be referred to as the Throne Dais Pavilion (*Shah neshin*).

The Throne Dais Pavilion was a long and elevated structure, approximately 52 meters in length and 7 meters in width, positioned directly beside the *Qara-Su* River on one side and facing the main garden on the other (Fig. 25). Along its river façade, the building featured four semi hexagonal projections with three intermediate wall surfaces between them. The entire façade was covered with uniform arched frames, some of which were solid while others contained windows.

Viewed from the riverside, the Throne Dais Pavilion appeared as a four storey structure, standing on a projecting platform. In this façade, the arched frames at the lower levels were completely closed, while those on the upper floors were formed as windows. From the garden side, however, the building appeared as three storeys, one of which lay below the ground level of the garden, accessed through staircases located on the sides of the building (Fig. 24).

Since no physical remains of the building survive, the architectural layout of its interior spaces cannot be determined with certainty. Nevertheless, some descriptions of the interior have been recorded by visitors to the building.

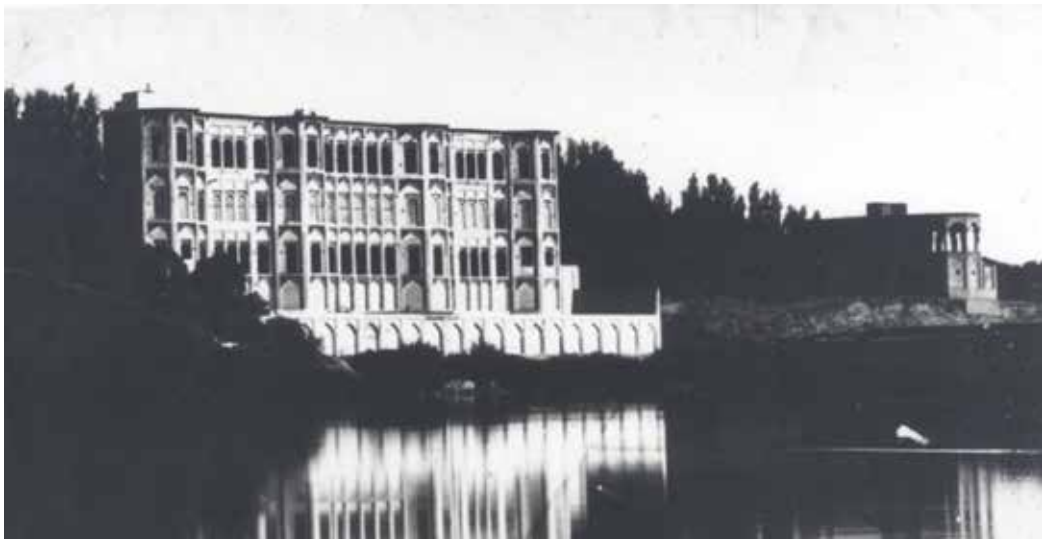

Fig. 21. Southern view of the *Emadiyeh* Palace riverside the *Qara-Su* River. Source: Golestan Palace Album House.

Fig. 22. North-facing view of the Emad al Dowleh Pavilion and the main axis of *Emadiyeh* Garden. Source: Golestan Palace Album House.

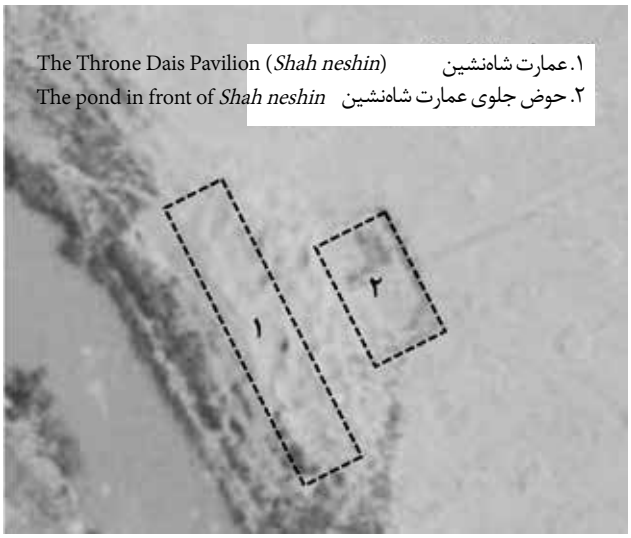


Fig. 22. North-facing view of the Emad al Dowleh Pavilion and the main axis of *Emadiyeh* Garden. Source: Golestan Palace Album House.

Fig. 24. Interior rooms and halls of the Throne Dais Pavilion (*Shah neshin*) and their two-sided views. Source: Golestan Palace Album House.

Keshavarz (2003, 60), perhaps with some exaggeration, stated that the pavilion contained around two hundred rooms. In addition, Gheyrat Kermanshahi offered the following description:

"The building was extremely solid and beautiful. The doors and windows were made of walnut wood, many of them inlaid. Some of the rooms were decorated with mirror work and inscriptions, while throughout the halls, there were remarkable and unprecedented examples of stucco carving, painting, and muqarnas ornamentation. Those who have seen the *Emadiyeh* building and spent even a single night there know that the beauty, grandeur, majesty, and at the same time the liveliness and delight of this royal palace cannot be described; words are incapable of conveying even a mental image of it to the reader".

What can be inferred from the available images is that the Throne Dais Pavilion (*Shah neshin*) building had a single depth spatial organization, meaning that the windows on one side were aligned with those on the opposite side. Careful examination of the images suggests that the building contained through spaces, allowing views toward the garden on one side and toward the *Qara-Su* River on the other.

These spaces appear to have been of two types in terms of form and position. The first type consisted of narrower rooms elongated in the north–south direction, aligned with the main axis of the garden. Their outer walls formed semi hexagonal projections, and through three projecting windows, they could command views in multiple directions. The second type consisted of wider hall like spaces, elongated in the east–west direction, positioned between the garden and the *Qara-Su* River, and provided with five windows on each side.

Although the building had windows facing both directions, the greater number of semi hexagonal projections on the *Qara-Su* façade suggests a stronger visual emphasis toward the southern river landscape. A notable feature of this pavilion is the absence of any large veranda or central open space, an element commonly found in similar pavilions of the Qajar period. Instead, the large number of repeated and similar rooms gives the structure the character of a guesthouse or residence intended to accommodate a considerable number of visitors. Based on the available descriptions and visual evidence, the authors have identified at least twenty one independent spaces within this building (Fig. 24).

A closer examination of the southern façade of the Throne Dais Pavilion (*Shah neshin*) shows that, in addition to providing views toward the southern river landscape, the building also enabled the movement of residents toward the riverbank. On the western side of the southern façade, two sets of staircases can be observed (Figs. 26 & 27). One of these provided access from the level of the main garden to the roof of the projecting platform of the first floor, while the other provided access from this platform down to the area adjacent to the riverside.

The projecting platform facing the river likely served as a place for leisure and viewing, since it possessed sufficient width, surface area, and enclosure for the presence of people. However, probably for security reasons, as the images indicate, there was no direct access from this platform into the interior of the Throne Dais Pavilion. The façade frames at this level are all closed, and no openings are visible.

The area adjacent to the river, which was accessible through the second set of stairs, also appears to have been in use, since numerous objects and equipment can be seen placed in the recessed niches of the façade frames in this section of the building. Doors were likely installed along the line of these staircases at suitable locations in order to prevent the entry of strangers or intruders.

Another notable feature in the design of the Throne Dais Pavilion was the possibility of using its roof. The presence

Fig. 25. The width and expanse of the *Qara-Su* River, the vegetation of *Emadiyeh* Garden, and the presence of the Throne Dais Pavilion (*Shah neshin*). Source: Golestan Palace Album House.

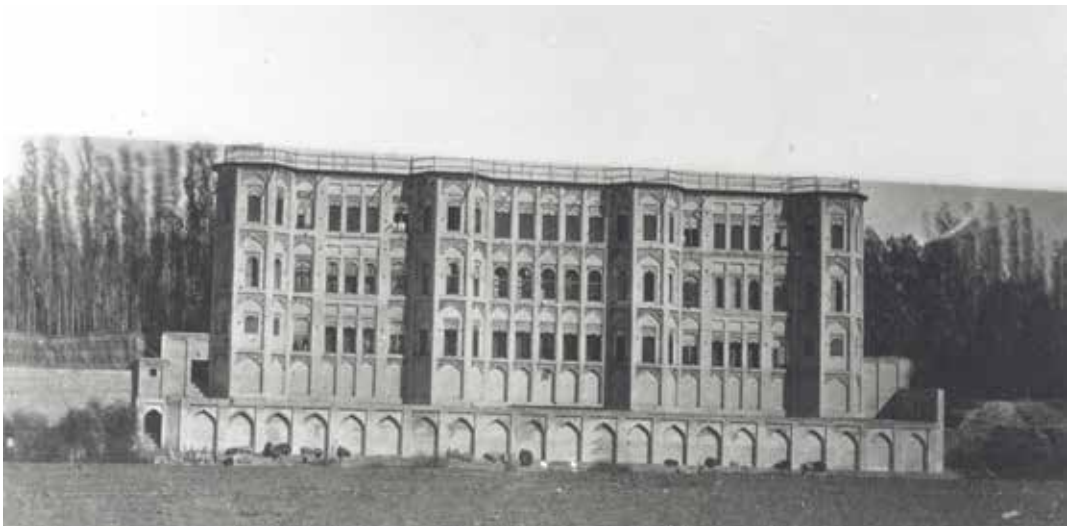

Fig. 26. Southern view of the Throne Dais Pavilion (*Shah neshin*) showing its floors and connecting staircases. Source: Golestan Palace Album House.

of railings along the top of the roof confirms this function (Figs. 24 & 26). Access to the roof was provided through the western staircase of the pavilion, which created a small roof structure (stair tower) visible above the roofline. The building probably also had another staircase on the eastern side, symmetrical to the western one, although this staircase did not provide access to the roof.

The Throne Dais Pavilion was not the only building in the southern section of *Emadiyeh* Garden. Two flanking pavilions were located on both sides (right and left) of the main pavilion at some distance from it. Together with the Throne Dais Pavilion and the open space between them, these structures created a distinctive architectural composition (Fig. 28).

The flanking pavilions had a rectangular proportion similar to that of the Throne Dais Pavilion, but they were oriented perpendicular to it, meaning that their shorter sides faced the *Qara-Su* River (Fig. 29). Despite this orientation, each pavilion contained a veranda on the second floor facing the *Qara-Su* River. However, the main façade of the flanking pavilions was oriented toward the interior of the garden and toward the open space between them and the Throne Dais Pavilion.

These pavilions were two storeys high and followed an architectural design similar to that of the Throne Dais Pavilion. Their façades were composed of uniform frames, and on the southern side, they incorporated semi hexagonal projections similar to those of the main pavilion. The façade frames on the first floor were closed, while those on the second floor were open or contained windows.

At the level of the first floor, which was aligned with the garden ground level, the flanking pavilions were wider and opened only toward the garden, while the second floor had a narrower width, corresponding approximately to the

Fig. 27. Southern view of the Throne Dais Pavilion (*Shah neshin*) E*madiyeh* Garden and its uniform windows. Source: Golestan Palace Album House.

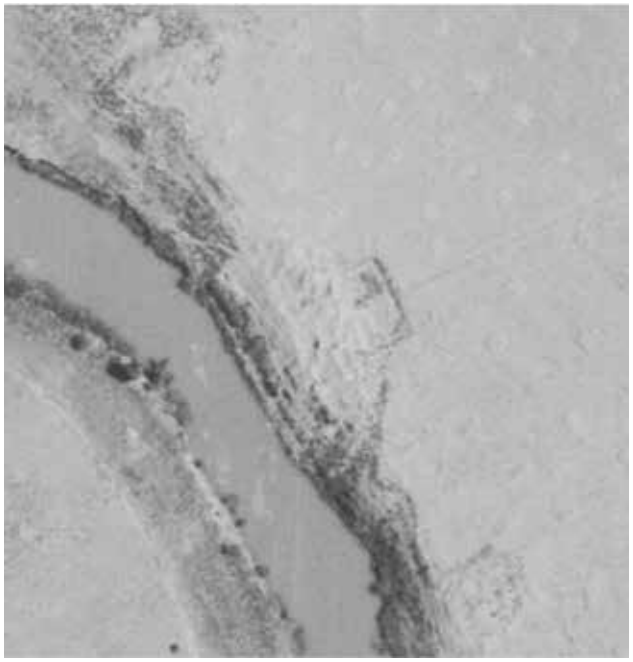

Fig. 28. Aerial photograph of the southern section of *Emadiyeh* Garden adjacent to the *Qara-Su* River, 1956 CE.
Source: National Cartographic Center of Iran.


Fig. 29. The location of the Throne Dais Pavilion (*Shah neshin*), the flanking pavilions, and the central axis of the garden on the 1956 CE aerial photograph.
Source: Authors, based on the National Cartographic Center of Iran.

width of the Throne Dais Pavilion. The façade frames on the rear side of the second floor contained relatively few openings, but they allowed access to the roof of the first floor of these buildings.

Access to the roof of the second floor was provided through a staircase located at the center of the building, which led to the roof through a small stair tower visible in the images (Fig. 30).

Thus, the primary façade of the flanking pavilions faced the garden, while their secondary façade overlooked the river. Another noteworthy feature of this part of the complex is the absence of an enclosing wall. Although Persian gardens are usually fully enclosed, *Emadiyeh* Garden in this section, where it connects to the *Qara-Su* River, was left without a wall to create a stronger relationship with the river and the surrounding landscape. Instead, the natural conditions of the river, its sloping banks and flowing water, functioned as the boundary separating the garden from the surrounding environment (Fig. 30).

## Summary

*Emadiyeh* Garden was established by Emad al Dowleh, a wealthy Qajar governor who served as the ruler of Kermanshah during that period. The initial purpose of constructing this aristocratic garden was for the personal use of the governor and the reception of distinguished

Fig. 30. The position of one of the flanking pavilions in relation to the Throne Dais Pavilion (*Shah neshin*) in the southern section of *Emadiyeh* Garden. Source: Golestan Palace Album House.

guests. However, during the later course of its existence, for more than half of its lifetime, the garden was accessible to the people of Kermanshah and travelers.

Accordingly, the function of the garden can be divided into two temporal phases. The first phase, lasting roughly thirty years after its construction, corresponds to its use as a private garden of the Emad al Dowleh family. The second phase, beginning after the death of Emad al Dowleh and continuing for approximately sixty years afterward, corresponds to its use as a public garden.

The accounts of Naser al Din Shah regarding his stay in this garden during his journey to the holy shrines of Iraq indicate that the garden possessed the necessary facilities to host distinguished guests such as the Shah and his entourage. Thus, during the first half of the garden's life, in the period when Emad al Dowleh was alive, the garden and particularly the Throne Dais Pavilion (*Shah neshin*) were mainly used for exclusive receptions of high ranking guests. Later, from approximately the early Pahlavi period, the garden came to be known as a national garden or public park, where the people of Kermanshah gathered during many annual ceremonies, celebrations, and festivals for leisure and recreation. In this later phase, therefore, the garden functioned essentially as a public urban park used by the general population.

An analysis of the geometric placement of the garden shows the intelligent selection of its longitudinal orientation from north to south, aligning the visual axis between Mount *Bisotun* and the city of Kermanshah, which constitute two of the most significant landscapes of the region. Furthermore, the placement of the garden north of the river, with a gentle slope descending toward it, and its location along the outer curve of the river, made it possible both to guide water gravitationally through the garden and to benefit from improved views of the river landscape along the southern edge of the site.

In addition to this advantageous geographical setting, climatic considerations also played a decisive role in the selection of the garden's location. The prevailing winds of the Kermanshah region, which generally blow from the west and northwest, could easily penetrate the garden space because of the open landscape and the absence of natural or artificial obstacles around *Emadiyeh* Garden, as well as the northeast–southwest orientation of the garden grounds. In combination with the presence of the *Qara-Su* River, these conditions provided favorable natural ventilation, cooling, and thermal comfort within both the garden landscape and its architectural structures.

Another important factor in the choice of the site was the gentle slope of the land. This allowed water to flow naturally from north to south toward the river and minimized the need for extensive earthworks, terracing, or large stair constructions, which would have been particularly significant for a garden of such large dimensions.

The water supply of *Emadiyeh* Garden was obtained from fresh springs located upstream near Mount *Bisotun*, which flowed toward the garden through a narrow water channel. Although this water source was of high quality, it likely had certain limitations even for a wealthy patron such as Emad al Dowleh. Since the garden was situated at the end of the water supply route, and since the authors' examination of the southern façade images revealed no overflow channel discharging water into the *Qara-Su* River, it can be concluded that the amount of water directed into the garden was carefully regulated. The width and depth of the channels, as well as the size of the pools and basins, were likely designed in such a way that the water was sufficient for irrigation and domestic use, while preventing unnecessary waste or overflow into the river.

In this respect, Emadiyeh Garden can be considered a remarkable example of a historical Persian Garden, demonstrating a harmonious relationship with the natural environment and an intelligent use of climatic conditions in Qajar period landscape architecture.

Another significant feature of *Emadiyeh* Garden is its large area of approximately 18.5 hectares, which is considerable among historical Persian gardens, particularly among

aristocratic gardens. For example, the area of *Emadiyeh* Garden was approximately three times larger than the Chehel Sotoun Garden in Isfahan and about eight times larger than the Fin Garden in Kashan.

The spatial organization and hierarchical structure of *Emadiyeh* Garden, together with its relationship to the river, present a unique model of Persian garden design. Unfortunately, prior to this research, no plan for *Emadiyeh* Garden had existed. By carefully matching the remaining lines visible in the 1956 CE aerial photograph, examining the historical images of various parts of the garden, and considering the written descriptions, the authors reconstructed a plan that corresponds as closely as possible to the historical reality of the garden (Fig. 31). Except for the central area of the *Andaruni* section, which has been drawn more hypothetically, efforts were made to depict the main garden and its overall proportions, dimensions, and spatial organization in a manner consistent with the actual structure of the garden during its period of prosperity.

As can be seen in Fig. 31, Emadiyeh Garden consisted of two sections, a northern and a southern part. The northern section, or the *Andaruni* (inner part) area, was smaller and functioned as an entrance forecourt used by the servants and residents of the garden. The southern section, or the *Khalvat* (private part) area, was larger and formed the main part of the garden, intended for the use of the governor and for receiving guests.

Thus, from a bird's eye view, the overall organization of the garden appears as two adjacent sections of unequal size. In outward appearance, this arrangement may resemble gardens such as *Takht* Garden in Shiraz or the *Qasr e Qajar* Garden in Tehran. However, this resemblance is merely superficial. In architectural terms, this garden differs not only from the two gardens mentioned but also from all other known patterns of historical Persian gardens, and in fact follows a unique design model of its own.

First, the site of *Emadiyeh* Garden is entirely flat from beginning to end, and within its grounds, there are no terraces or stairways. In contrast, *Takht* Garden and *Qasr e Qajar* Garden are located on hillsides and slopes, where the construction of large terraces and staircases was unavoidable.

Another difference lies in the spatial hierarchy of access. In *Takht* Garden and *Qasr e Qajar* Garden, the larger section functioned as the entrance garden and the Biruni (outer part) area, through which one had to pass to reach the *Andaruni* (inner part) section. In *Emadiyeh* Garden, however, the entrance to the garden was through the smaller *Andaruni* section, while the larger garden located behind it functioned as the *Khalvat* (private part) garden or guest garden (Fig. 28).

The most important architectural difference among these gardens concerns the position of the Throne Dais Pavilion (*Shah neshin*). In *Emadiyeh* Garden, the Throne Dais Pavilion was located at the far end of the main garden beside the river, overlooking both the river and the main garden. In contrast, in *Qasr e Qajar* Garden and *Takht* Garden, the Throne Dais Pavilion was positioned between the *Andaruni* and Biruni sections, commanding views toward both parts (Khoei & Garavandpoor, 2011, 16).

Based on these observations, the principal part of *Emadiyeh* Garden is the large garden located between the *Andaruni* section and the *Qara-Su* River. The spinal axis of this main section is the central *chaharbagh* Avenue, which begins at

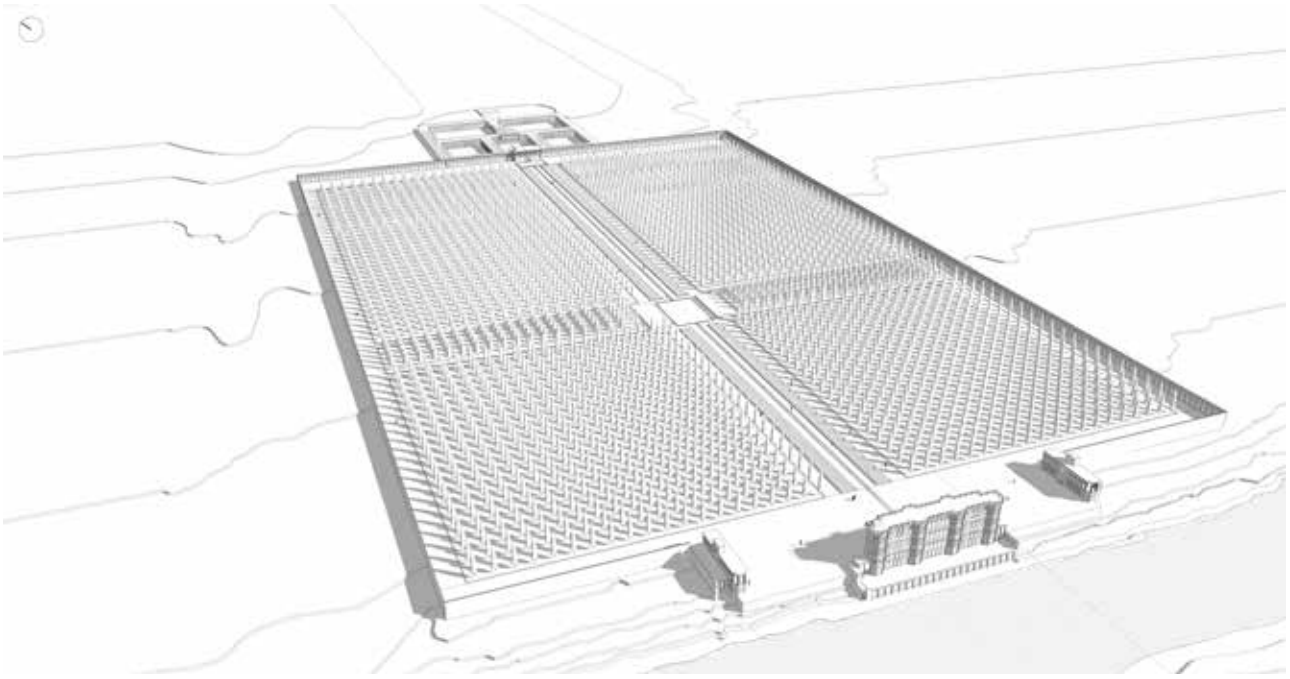

Fig 31. Hypothetical three-dimensional view of *Emadiyeh* Garden from the west, drawn based on available evidence. Source: Authors.

the entrance building and ends at the Throne Dais Pavilion (Fig. 32). This central *chaharbagh* is distinguished by its broad width, rows of trees, a central water channel, and large pools positioned at its beginning, middle, and end (Fig. 33). Yet all this preparation and spatial drama ultimately leads toward a single destination, the final goal of the design, which is the Throne Dais Pavilion itself (Fig. 34).

Since the interior grounds of *Emadiyeh* Garden were filled with rows of tall poplar trees, the visual character of the garden from within would have appeared as a dense mass of tall trees, presenting visitors with a lush, forest like green landscape. In contrast, toward the south and the *Qara-Su* River, a different scenery would have been visible, water and a wide, verdant plain.

It seems that the construction of a building positioned between these two contrasting landscapes, enabling the simultaneous viewing of both, was a deliberate intention that was ultimately realized through the construction of the Throne Dais Pavilion (*Shah neshin*). Accordingly, the pavilion was designed so that on one side it looked toward the interior of the main garden, which resembled a dense woodland, and beyond it the distant *Bisotun* Mountains, while on the other side it faced the waters of the *Qara-Su* River and, farther away, the city of Kermanshah.

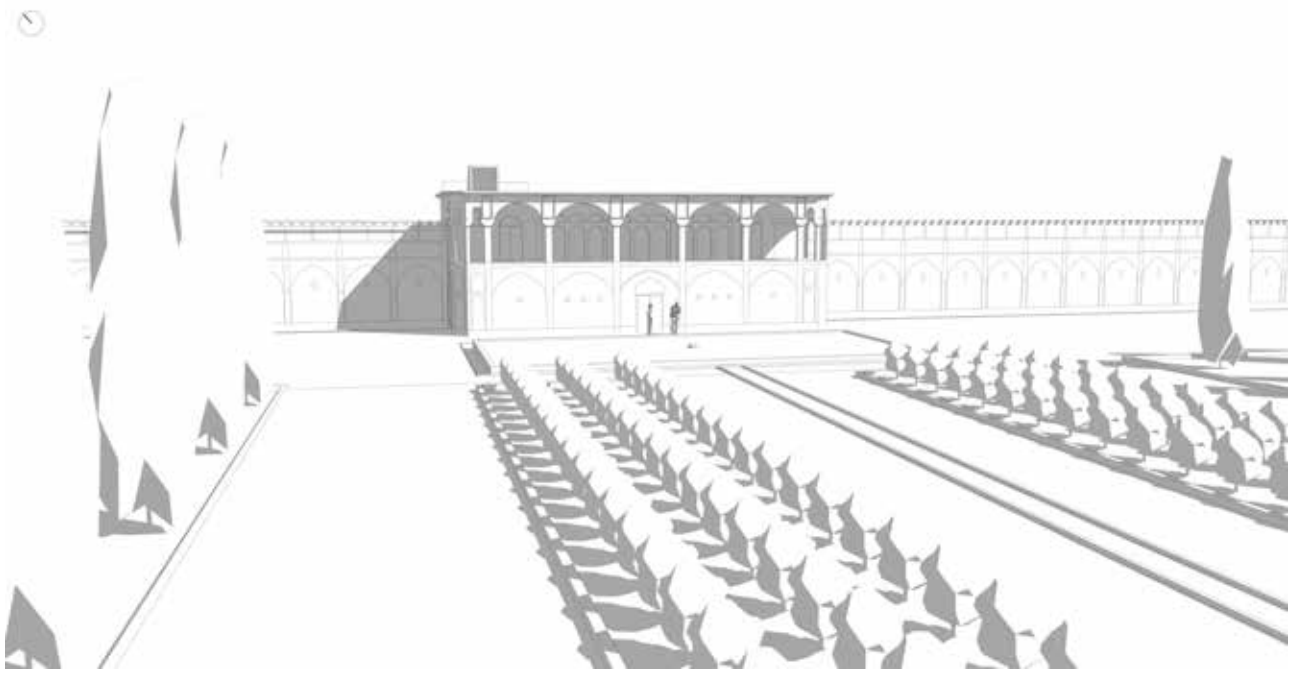

Fig. 32. The entrance pavilion and the central axis of the Private (*Khalvat*) Garden in Emad al Dowleh Garden. Source: Authors.

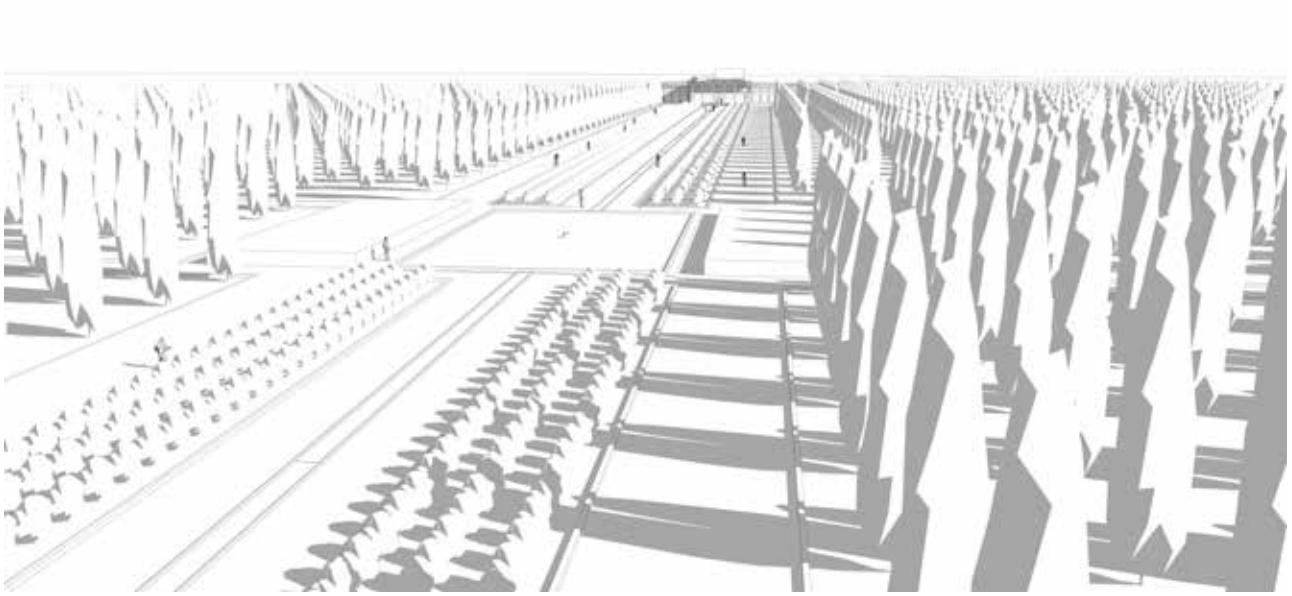

Fig. 33. The central *chaharbagh* of the main garden in *Emadiyeh* Garden. Source: Authors.

To achieve this purpose, the architectural design of the Throne Dais Pavilion adopted a distinctive form. The building was designed like a long and elevated terrace with a relatively narrow width. The interior spaces were arranged in a single linear layer without corridors or longitudinal dividing walls, so that they could open visually to both sides without obstruction (Fig. 35).

In addition to the interior spaces, the exterior spaces of the pavilion also benefited from this opportunity for viewing the landscape. The roof of the building was likewise used by residents for observing and enjoying the surrounding scenery. The significance of this space was further enhanced by its considerable height, which at that time would have been regarded as a tall structure, allowing a 360 degree panoramic view of the surroundings, including the city of Kermanshah, the *Qara-Su* River, the grounds of *Emadiyeh* Garden and neighboring gardens, and Mount *Bisotun*.

Moreover, considering the access routes provided from the platform in front of the Throne Dais Pavilion toward the *Qara-Su* River, it was even possible to descend toward the riverbank, allowing visitors to approach the river, view its scenery, and enjoy its refreshing environment. Thus, the Throne Dais Pavilion enabled observation of the surrounding landscape not only from its interior spaces, rooms and halls, but also from its exterior environment and rooftop.

For this reason, the Throne Dais Pavilion in *Emadiyeh* Garden could perhaps be described, in the most literal sense, as a "landscape pavilion" (Fig. 35). The architectural design of the pavilion strongly emphasized the specific function for which it had been constructed. Its composition, form, and orderly internal architecture, consisting of numerous repetitive rooms oriented toward both sides, made it somewhat comparable to modern

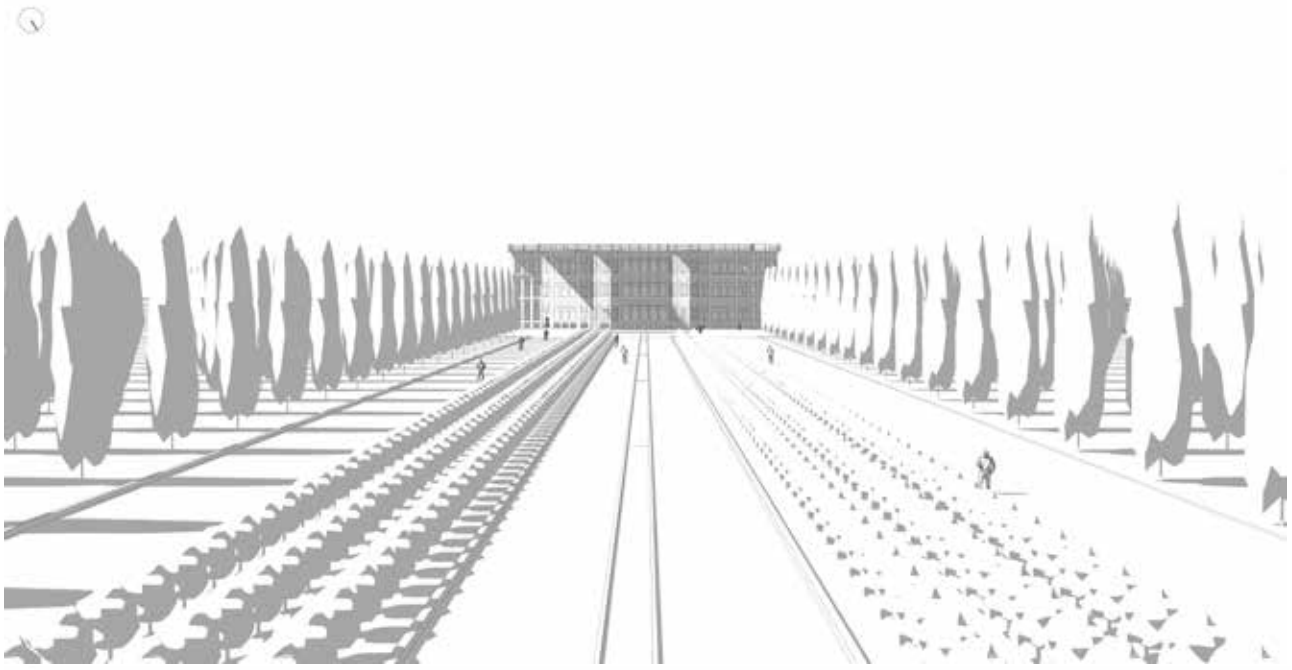

Fig. 34. The chaharbagh leading to the Throne Dais Pavilion (*Shah neshin*) in *Emadiyeh* Garden. Source: Authors.

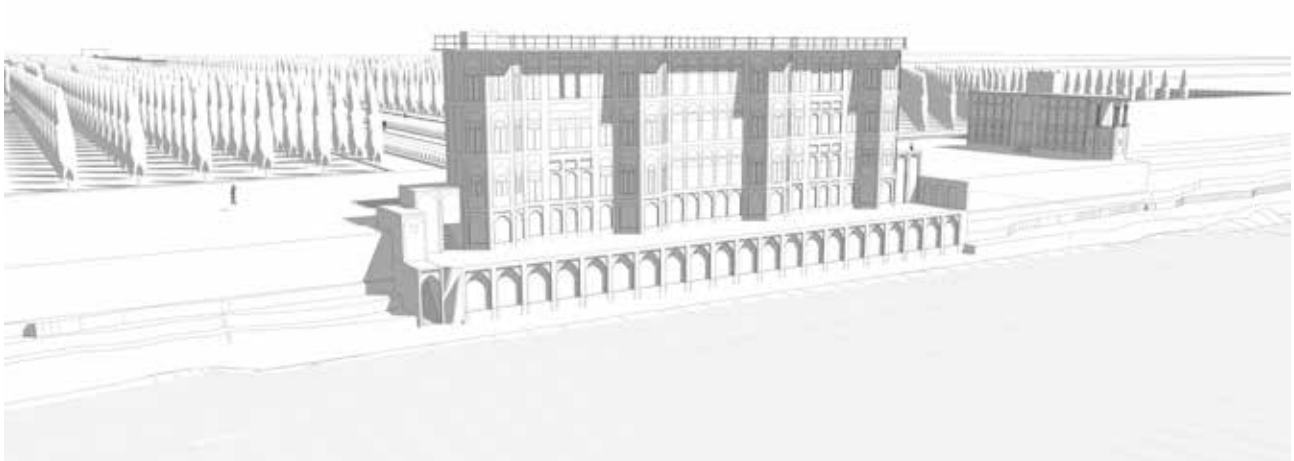

Fig 35. Southern view of the Throne Dais Pavilion (*Shah neshin*) of *Emadiyeh* Garden. Source: Authors.

ceremonial guesthouses, providing accommodation for a considerable number of guests in rooms designed specifically to take advantage of the extraordinary surrounding views (Fig. 36).

However, the termination of the central *chaharbagh* axis in *Emadiyeh* Garden does not end solely with the Throne Dais Pavilion (*Shah neshin*). Despite the large scale of the pavilion, both in length and height it appears that the building alone was not considered sufficient, from a design perspective, to conclude a garden as large and wide as *Emadiyeh* together with its prominent *chaharbagh* axis. For this reason, at the terminal part of the garden, the Throne Dais Pavilion was accompanied by two flanking pavilions positioned on either side of it (Fig. 37).

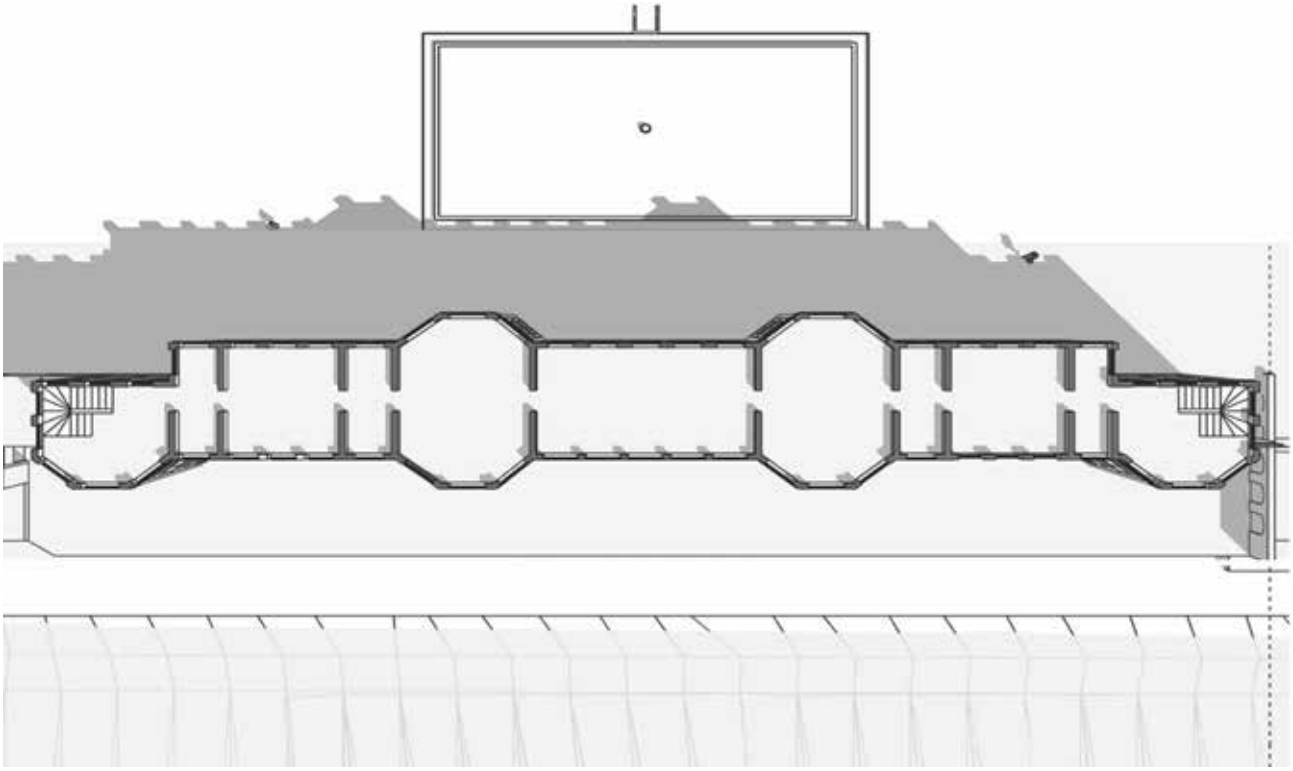

Fig. 36. Pictorial cross-section of the Throne Dais Pavilion (*Shah neshin*) of *Emadiyeh* Garden. Source: Authors.

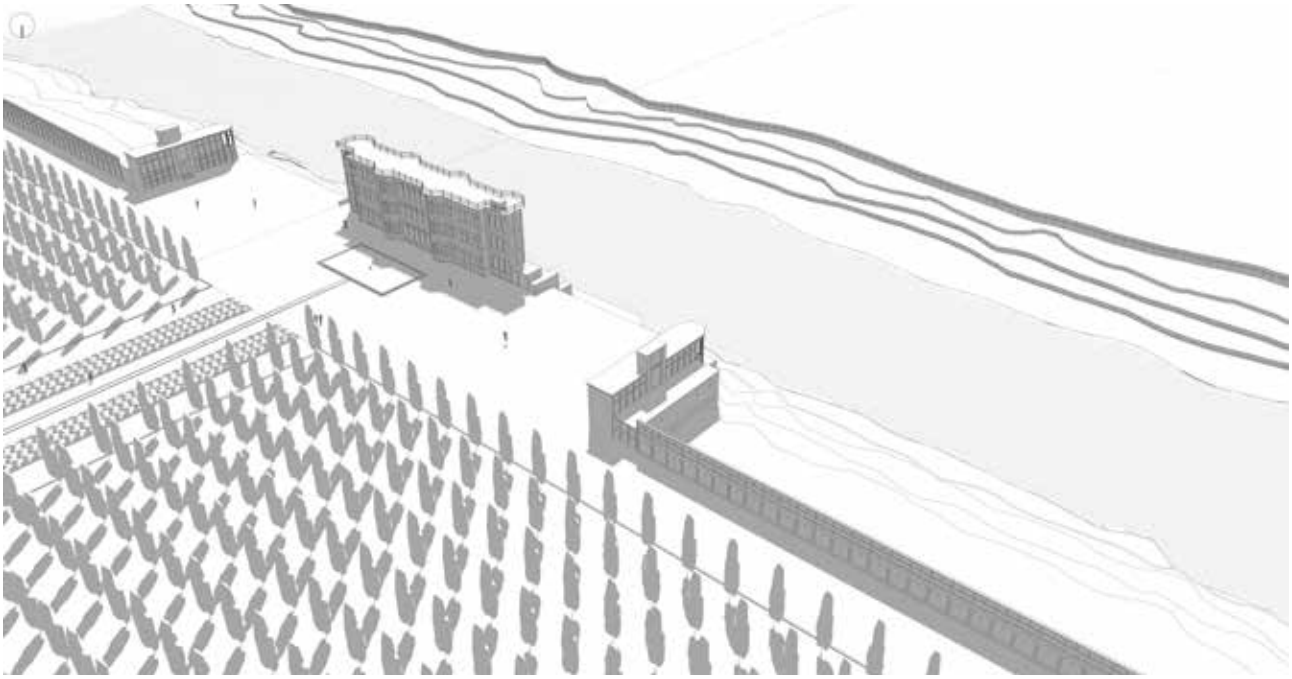

Fig. 37. The courtyard between the flanking pavilions and the Throne Dais Pavilion (*Shah neshin*) at the terminal section of the Private (*Khalvat*) garden. Source: Authors.

These flanking pavilions seem to function almost like guarding companions to the Throne Dais Pavilion, reinforcing its presence so that the ensemble could match the vast scale of the garden while also providing additional accommodation for visitors. The space between the flanking pavilions and the Throne Dais Pavilion forms an elongated courtyard, which, together with the central pool, creates a complete and emphatic spatial conclusion for *Emadiyeh* Garden.

This architectural composition and its direct connection to the river appear to have been of such importance to the designer that no enclosing wall or boundary can be observed in this section of the garden.

Thus, *Emadiyeh* Garden in Kermanshah, beyond its distinctive spatial and architectural characteristics, can also be considered a notable example of garden design in western Iran because of its adjacency to the bank of the *Qara-Su* River. It also represents a new pattern within the diversity of historical Persian garden design. Although in some other examples, such as the *Farahabad* Garden of Sari, the proximity of the pavilion to water was also intended to benefit from the landscape and climatic conditions of the region, the scale and compositional integration of the garden with the river bank in *Emadiyeh* Garden of Kermanshah is exceptional and perhaps even unique.

## Conclusion

*Emadiyeh* Garden was established during the Qajar period in the northeastern outskirts of the city of Kermanshah. In terms of its scale, the garden can be considered one of the largest examples of aristocratic gardens in Iran. The selection of its location at the entrance of the city and on the northern bank of the *Qara-Su* River corresponds precisely with the intention of designing a garden for recreation and for receiving guests.

The function of the garden throughout its lifetime indicates a deep connection with both the needs of its founder and the use of ordinary people. This function, consistent with the social and political structure of the Qajar period, was not only a reflection of recreational, residential, and ceremonial needs but also an expression of the distinct aesthetic sensibilities of that era. The *Qara-Su* River, by influencing the local microclimate, created a cool and verdant environment, while strengthening both the environmental structure and the visual attractiveness of the area and playing a fundamental role in the spatial organization of the garden.

The large size of the garden, together with its distinctive design along the bank of the *Qara-Su* River, transformed it into a unique model in Persian garden design. Unlike many gardens of the central Iranian plateau, which possess a completely enclosed and inward oriented geometry, *Emadiyeh* Garden, similar to the *Farahabad* Garden of Sari, is fully open toward the river to which it is directly attached, benefiting from its natural landscape. The rectangular geometry of the garden and the orientation of its main axis not only follow the natural slope of the land for gravitational water flow, but also create a spatial pull toward the Throne Dais Pavilion (*Shah neshin*) and the *Qara-Su* River.

What distinguishes *Emadiyeh* Garden architecturally from other historical gardens located along banks is the design of the Throne Dais Pavilion and its two flanking pavilions beside the *Qara-Su* River. The unique design of the multi storey yet single layer Throne Dais Pavilion presents a distinctive model of a garden pavilion that has not been observed elsewhere. Although the pavilion may appear massive and monumental at first glance, it actually provides a remarkable arrangement of residential spaces, all of which, while similar in form but positioned at different angles and elevations, look toward the *Qara-Su* River and the city of Kermanshah on one side, and toward the garden (covered with trees) and the beautiful *Bisotun* Mountains on the other.

In this sense, the building seems to have been less a monument for displaying power and more a functional structure intended for the accommodation of guests and caravans, allowing them to enjoy the beautiful environment of the garden and its surroundings.

The composition does not end there. By creating two flanking pavilions and an intermediate courtyard, a space at a human scale was formed that not only allowed gatherings and social activities for residents and guests, but also created a complete spatial termination for the main axis of the garden, especially considering its great size. The flanking pavilions, like the main Throne Dais Pavilion, faced both the Qara-Su River and the city of Kermanshah, as well as the intermediate courtyard, though in this case the views were framed from within roofed verandas, adding architectural diversity.

Despite the vast extent of *Emadiyeh* Garden and the busy *Andaruni* section, most of the images obtained from the *Golestan* Palace Album House, many of which were used in this article, depict the southern part of the garden, namely the Throne Dais Pavilion and the flanking pavilions, and their proximity to the Qara-Su River. This fact itself demonstrates the remarkable importance of this section and its visual and spatial relationship with the riverbank and the landscape beyond it.

Thus, the connection of *Emadiyeh* Garden with the bank of the Qara-Su River, achieved through a creative combination of open and enclosed architectural spaces, enriches the design and represents one of the most remarkable architectural strategies for linking a garden with a riverbank. Consequently, the garden can be regarded as one of the most prominent examples of

historical gardens built beside a riverbank, for which no comparable example from later periods has yet been identified.

Based on these observations, *Emadiyeh* Garden can be considered one of the largest and most outstanding historical gardens of western Iran from the Qajar period, built along a riverside, a complete example of the harmonious interaction of politics, architecture, and nature within the art of Persian garden design. At the same time, it represents an exceptional case of landscape design and a powerful creator of the historical and cultural memory of the Kermanshah region.

Considering that *Emadiyeh* Garden was constructed in the late Qajar period, it may represent one of the last examples of bank gardens and perhaps one of the final generations of historical Persian gardens. The purpose of presenting this unique model of Persian garden design is therefore, first and foremost, to contribute to the preservation of this rich cultural heritage, even if only as Intangible Heritage, and to expand the diversity of design and landscape models, particularly within the field of garden design.

## Declaration of No Conflict of Interest

The authors declare that they have no conflict of interest in conducting this research.

## Endnotes

1. Sang: traditional unit of weight

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