

Learning From the Past:
Recreating Historic Persian Gardens in Downtown Tehran
by
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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Persian Garden is a cultural, historical and physical phenomenon in the land of Iran. One of the main purposes of creating these gardens was to provide space for leisure and meditation. “Pairi Daeza” from which we have “paradise” is a Persian phrase meaning surrounded enclosure or fortification. This term was also adopted in Judeo-Christian tradition to define and describe paradise on earth, i.e., Garden of Eden. In the past, Tehran was nicknamed *Baagh-shahr* or the “garden city” as it held many gardens in it and nature was an inseparable part of the urban area. However, after the advent of modernism and urbanization in the 20th century, modern buildings, high-rises, and highways replaced the historic gardens, destroying the historic visage and classical character of the now metropolis Tehran. Looking at the history of Tehran, it is evident that the city was originally developed in distinct harmony with nature, showcasing the pristine natural scenery courtesy of its location on the footsteps of Alborz mountain range. However, in recent decades, the historic gardens have been neglected due to the misguided urban planning carried out in Tehran disregarding the city’s unique history. As a result, the city is now struggling with environmental pollution, ecological disruptions, and generally a broken landscape. This thesis is aimed to locate the lost gardens in downtown Tehran and identify those gardens which now have been replaced by small scale urban fabrics filled with storages and garage facilities. The goal is to redesign these locations to incorporate traditional garden design within modern urban land use. As the most magnificent of classic Persian gardens were private property and thus effectively available solely to nobility and royalty, the new gardens were designed with keeping public interests and access in mind: a communal space providing different programs such as childcare, healthcare, retail store, theater, etc. As a result, these public gardens are not only accessible to the public by being knitted into the urban fabric, but could also offer the local population with new opportunities for both business and pleasure.

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1 INTRODUCTION

The idea for my thesis first came to me when I went to visit Tehran in summer 2017. While I was there, I noticed how new development projects had changed the face of the city during the two years since I had left Iran. I witnessed how they destroyed gardens and cut down trees to construct new buildings under the garb of modernization. To my dismay, a 500-year-old garden in the heart of the oldest part of the city was now a massive commercial complex (Figure 1). For many years this beautiful garden rested beside the Saad Abad Palace (one of the most historic and iconic architectural complexes in Tehran and a former royal residence), and shielded it from the rest of the city.

In Iran, due to political and economic challenges, aesthetic and historic matters do not constitute a priority for the state. What is more, historic gardens are not even considered a relevant part of the country's heritage. The issue of garden conservation is widely neglected, and up to now, there has been no real effort to track and record the varied histories of such gardens. Despite our understanding of the benefits of urban green spaces, little is known about the benefits of historical gardens as aesthetically-pleasing enclosed spaces to provide refuge from the hustle and bustle of city life and their positive effects on the mental health and overall well-being of modern urban dwellers.

For my thesis, I aimed to study ancient Persian gardens to understand how their design was adaptive to the environment and co-evolving with the culture to become a constitutive element of the greater Persian culture. Persian gardens originate as early as 4000 BC, and the basic design of the Persian garden can be traced back to the sixth century B.C which was influential to the development of

Islamic, Indian and Western European styles.¹ These gardens were developed to fight Iran's harsh and dry heat through biotic shade and sun-blocking walls.

Some of the questions I hope to address via this thesis include: How to recreate or revive the classical Persian garden in contemporary environment and translate them into the 21st century? What is the future of Persian gardens in the modern city? As historically, Persian gardens were private, exclusive spaces reserved for the family (the most magnificent ones of course serving as private residence for royalty and aristocrats), the Persian garden's new design centered around public access must adjust its design parameters to accommodate all people with varying interests as strangers, at the same time as trying to simulate for the public a similar experience of leisure, peace, and awe as the one experienced by the former aristocrats. Thus, my thesis is a kind of experiment to hybridize contemporary functionality with the idea of the garden, while connecting the garden with the rhythms of contemporary life in Tehran. Thus, my thesis distinguishes a number of transformation that can be deployed in the urban landscape, each in its own way. These applications of the enclosed garden are illustrated by tree design experiments, highlighting three contemporary functionalities integrated with the idea of the garden: a parking lot, an elementary school, and a shopping promenade (bazaar).

In addition, I have identified the location of old gardens in Old Tehran which have the potential to be restored (numbering more than fifty). As for my own project, I chose three of such sites to do detail design work with different scenarios and ideas. Nevertheless, I believe that reviving these garden cites en masse through a public

¹ Hobhouse, Penelope. *The Gardens of Persia*. Kales Press, 2004.

works project could result in making the city as a whole, and especially the congested downtown area, more walkable and alive as well as improving the air quality and engaging the people of Tehran with their rich cultural heritage.

Moreover, the restored Persian gardens serve as communal places of identity, memory, and belonging. They enrich human life with meaning and emotions by providing important social and psychological benefits, bringing people together, increasing community and cultural interaction, and, most importantly, enhance the residences' quality of life and well-being.



Figure 1. Historic garden transformed into a massive commercial complex in Tehran

2 PERSIAN GARDEN

Persian garden design is one of the main elements in the Iranian architecture and landscaping. Persian gardens are usually enclosed in a confined area where the plants, water, and buildings are integrated into a certain architectural framework, creating a favorable and safe environment for humans.

In the Islamic Encyclopedia, the garden is described as follow: the enclosed space that is made by humans using flowers, trees, water and buildings based on geometric rules and human beliefs.²

The Persian garden design is not only limited to providing green spaces for the inhabitants but also creating the opportunity for further interaction between the human and nature as well as creating various ranges of functions and promoting Persian culture through various design elements.³



Figure 2. Shazdeh garden, Kerman, Iran - built in 1870

² Esposito, John L. *The Oxford encyclopedia of the Islamic world*. Oxford University Press, 2009.

³ Gharipour, Mohammad. "Transferring and Transforming the Boundaries of Pleasure: Multi-functionality of Gardens in Medieval Persia." *Garden History* (2011): 251.

2.1 Persian garden geometric structure

The geometric framework is the most prominent features of Persian gardens. The initial structure of these gardens was based on a geometrical quadripartite division with a pavilion in its intersection.⁴ The general idea of this formation came from the pre-Islamic Iranian division of the earth into four sections, which may have been inspired by the geometrical motifs of Mesopotamia civilizations.⁵

The basic geometric form of Persian gardens can be described as follow: a rectangular area of a relatively broad land that is enclosed by walls. The streams crosses at a certain point to divide the garden into four separate green spaces (Figure 3). In Persian, this type of garden is called Chahar-bagh which literally means four-garden.⁶ This highly structured geometrical scheme became a powerful method for the organization and domestication of the landscape, itself a symbol of political territory.⁷

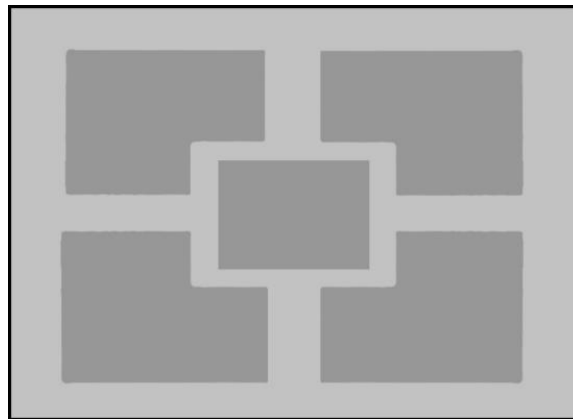


Figure 3. Basic Persian garden geometry

⁴ Mahmoudi Farahani, Leila, Bahareh Motamed, and Elmira Jamei. "Persian gardens: Meanings, symbolism, and design." *Landscape online* 46 (2016): 3.

⁵ Massoudi, A. "Acquaintance with Iranian gardens Bagh-e shazdeh." *Tehran, Faza publication* (2009): 44.

⁶ Daryaei, Touraj. 2014. *The guardian*. Oct 30. Accessed Nov 4, 2018. <https://www.theguardian.com/world/iran-blog/2014/oct/30/iran-walled-garden-paradise>.

⁷ Ruggles, D. Fairchild. *Islamic gardens and landscapes*. University of Pennsylvania Press, 2011, p.39

2.2 The role of water in Persian Gardens

The geometric division of Persian gardens has been usually achieved through the placement of water channels. Persian gardens were mostly subdivided by water streams generating major and minor axes. Water is usually the identifier of centrality in Persian gardens. The water flows in the main axis of the garden to the pool in front of the main pavilion developing an architectural emphasis on the placement of the pavilion building (Figure 4). The water in Persian garden is not an inert element, though it is a dynamic one either with its fountains and water jets or by the natural flow on the slope of the ground. The other feature of the water in Persian gardens is the reflection of the water. The big pool in front of the main building is usually a reflector of the pavilion and the greenery of the garden.



Figure 4. Shazdeh garden, Mahan, Iran

2.3 Persian Garden features

2.3.1 Boundary and territory

Boundaries define the quality of the area they surround. As Jahanbakhsh explains, every activity and behavior has its own limit as every space has its own privacy and boundary. These boundaries could be as solid as walls and fences, or they can be transparent and flowing.⁸

Iran's traditional architecture is influenced by spiritual principles which have deep roots in the country's culture and thoughts. The principle of privacy and introversion as the most important principles governing all aspects of life is also rooted in the traditional architecture of Persian gardens and has deep consequences in spatial organizing.⁹ Introverted architecture values the essence and core of the interior, whereas the exterior is just an external cover for the truth inside. It is the richness of the inside that truly determines the value of the garden and the external boundary is nothing but a protective shell. The introverted design of the garden is aimed to create a boundary that preserves the privacy of the environment which is designed for thought, reflection, and worship to reach inner peace and self-awareness.¹⁰

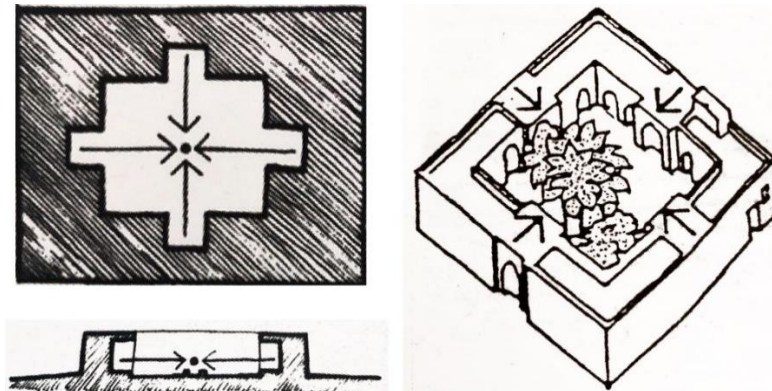


Figure 5. Introverted architecture design

⁸ Jahanshah, Pakzad. 2006. *Theoretical thinking and urban design process*. Tehran: Shahidi.

⁹ Ghayeghchi, M. M. (2015). The Relationship between Privacy and Introversion in Traditional Houses. *Cumhuriyet Science Journal*, 36(4), 142.

¹⁰ Massoudi, A. "Acquaintance with Iranian gardens Bagh-e shazdeh." *Tehran, Faza publication* (2009): 44

2.3.2 Enclosure

Enclosure means when space is bounded by an artificial or natural barrier, in a way that makes users feel encapsulated. Different space elements (e.g., buildings, walls, trees), could create an enclosure and each would have a different impact on users.¹¹ Ever since its creation, the Persian garden has been enclosed by walls, allowing entrance only through the front door. The goal is to protect the garden, especially its precious streams, and trees from the harm of intruders. In ancient Persian language, the word “Paradaeza” literally means walled enclosure. By the 5th/6th century BCE, the old Persian word was used to indicate the expansive walled gardens of the first Persian Empire. The word was later adopted as Greek *Parádeisos*, Latin *Paradisus*, and finally English *Paradise*.¹² In modern Persian language the word “Paradaeza” is replaced with the word “Bagh” which also implies enclosure.

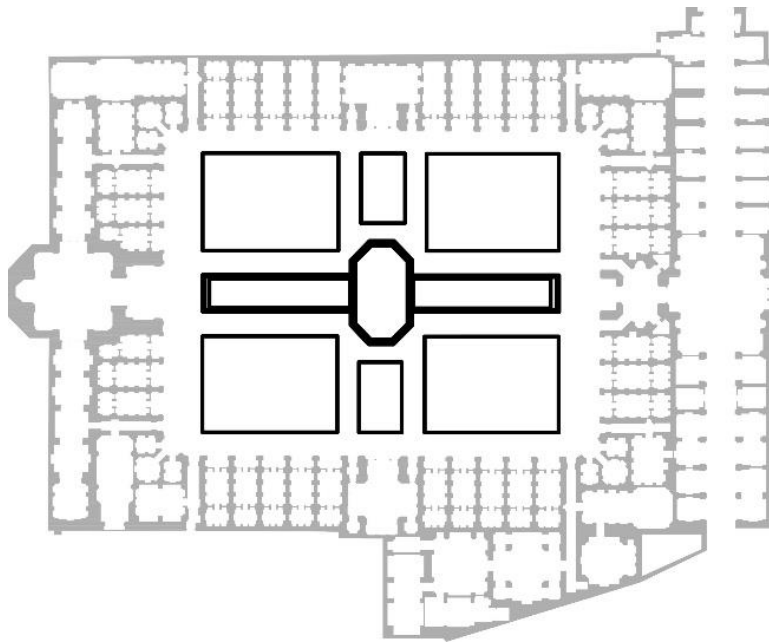


Figure 6. Sultani school-mosque in Kashan floor plan

¹¹ Jahanshah, Pakzad. 2006. *Theoretical thinking and urban design process*. Tehran: Shahidi.

¹² Babaie, Sussan. "Paradise Contained;: Nature and Culture in Persian Gardens!." *The Studio Potter* 25, no. 2 (1997): 10-13.

2.3.3 Centrality

The need for centrality is so significant that humanity since antiquity has conceived the cosmos as a centralized being. Under Islamic tradition, for instance, *Kaaba*, as the focal point of religious practice, is the center of the Islamic universe. Centrality is one of the essential principles in the conception and organization of elements within many architectural spaces usually to highlight the most important aspect of the architectural complex. The principle of centrality is seen in many traditional *kiosks*, especially those with the *Eight Paradise* design. The centrality principle finds its best expression in square gardens with kiosks located at the intersecting axes. In the Hasht Behesht garden in Isfahan, the light that illuminates the inside from the top of the dome is reflected by the clear water in the fountain underneath (Figure 7). Moreover, the reflection of water, not only lightens the space but simultaneously irradiate the ceiling which symbolizes the birth of the light of all being in Ishraqi philosophy and its central place in the cosmos. The relationship between water and light along with the position of the heavens on water are highlighted to suggest the aesthetics of *logos* and *pathos* and their unity.¹³



Figure 7. Hasht Behesht garden, 17th century pavilion, Isfahan

¹³ MEHDIZADEH, SARADJ FATEHEM, and GOFTAR ATEFEH NIKOO. "A Comparative Study on Approaches to Achieve Tranquility, Calmness and Meditation in Traditional Gardens of Iran and Japan." (2011): 31-42.

3 TEHRAN

3.1 Tehran gardens

In the past, Tehran had a reputation for its many gardens and plane trees. The earliest historical reference to Tehran is in a travel diary written in the 11th century when it is mentioned as a small village, known for its fine pomegranates and gardens.¹⁴ The Italian world traveler, Pietro Della Valle, who traveled to Iran in 1616, wrote in his travelogue: “Tehran is a great city, however few people reside there. The whole city is covered with massive gardens (Figure 8), and almost all kind of fruits can be found there. The streets of this city are full of plane trees.”¹⁵

Gardens played a significant role in forming the center of the city within the enclosure. These gardens organized the interior structure and the development of Tehran toward the north. Most of these gardens were private and used by royalties, however, they were open to the public for public announcements and special occasions throughout the year.



Figure 8. Map of Tehran in 1843

¹⁴ Arash Mozaffari, “A city built by its inhabitants,” *Pages 2* (2004), <http://www.pagesproject.net> (accessed November 7, 2018).

¹⁵ Della Valle, P. “Travelogue of Pietro Della Valle.” (1970).

3.2 Geographical history

The city of Tehran is currently the largest city in Iran and has experienced fast growth especially in the past three decades. Tehran has been the capital of Iran for more than 220 years, and the settlement of Tehran dates back over 7,000 years (Figure 9-11).¹⁶

The greater Tehran consists of three sections: mountainous, piedmont and desert (Figure 10). In the mountainous section, where the heights reach over 1800 meters, there is no residence or construction due to the height and legal restrictions.¹⁷ Therefore, Tehran has physically developed in the piedmont and dessert sections.

The original core of Tehran is located in the plain area which consists of an inferior ecosystem. However, specific morphological characteristics, flat background, consistent irrigation facilities, and farmable lands all have helped pave the ground for the formation of the original nucleus of ancient Tehran.¹⁸

In the Piedmont section, owing to green valleys, running waters, and cool draught in the summer the construction of garden villas in this section which increased. As a result, multiple paths developed which connected the mountainside to the city. At the same time, urban areas came into being sparsely along these paths which played a great role in developing the city mountainward.

¹⁶ staff, IFP editorial. 2016. *Iran Front Page*. Feb 3. Accessed Nov 8, 2018. <https://ifpnews.com>

¹⁷ 2006. *Atlas of Tehran Metropolis*. Feb 25. Accessed Nov 12, 2018. <http://atlas.tehran.ir>

¹⁸ IRANI, BEHBAHANI H., and Fakhri Khosravi. "Iranian Garden: A Place of Coexistence: City-Nature-Landscape Case study: Tehran Gardens in 19th Century." (2006): 79-87.

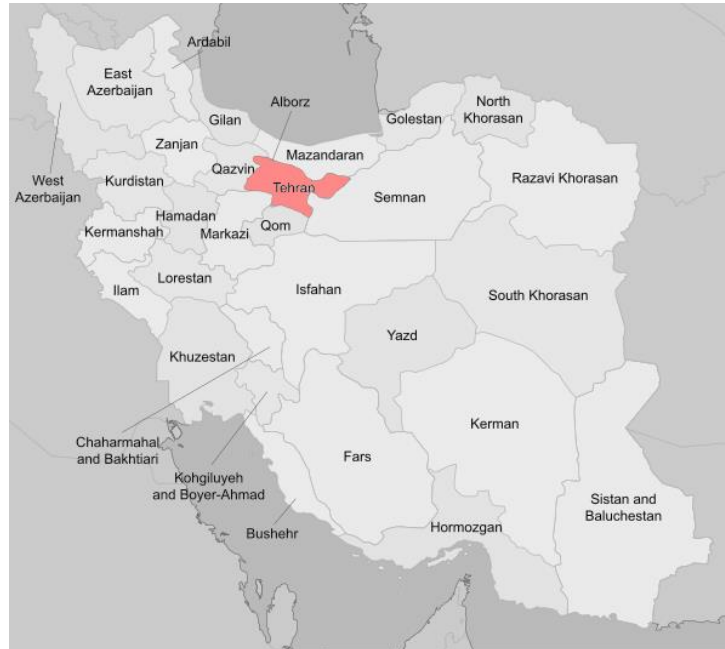


Figure 9. Original location of Tehran

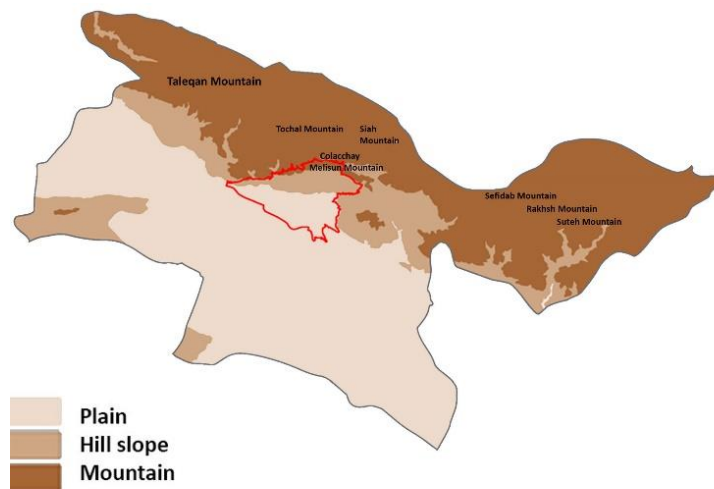


Figure 10. Topography of Tehran province



Figure 11. Diagram showing the original core location on Tehran map

3.3 Urban expansion

During the rule of the first three Qajar kings (1794–1906), the city frequently expanded upon its initial development. However, in the fifty-year rule of Naser-Al-Din Shah in 1840s, notable changes occurred in the structure of the city, which were the start of the city's development. These changes include the deconstruction of old walls and the construction of a new, larger battlement. Due to Tehran's rapid growth, extensive construction, and the popularization of the urban lifestyle, the area within the city limits began to fill up. As a result, some royal palaces, gardens, embassies and foreigner's houses were built outside the city's limits. Fortifications from the Safavid era were demolished and a new one, consisting of twelve gates to the outside, was built (Figure 13).¹⁹

With the adoption of a western lifestyle in 1979 and the imposition of new roads and transportation network on the old fabric of the city, the number of cars and vehicles increased. As a result, the public squares and plazas were less integrated within the network of the city, which led to further destruction of gardens and public urban spaces.

Moreover, in recent decades, the historic gardens have been neglected due to the misguided urban planning carried out in Tehran disregarding the city's valuable historical features such as gardens. As a result, the city is now struggling with environmental pollution, ecological disruptions, disjointed urban design, and discordant aesthetics.

¹⁹ Madanipour, *Tehran: The Making of a Metropolis*, 52.



Figure 12. Aerial photo of Tehran in the early 19th century

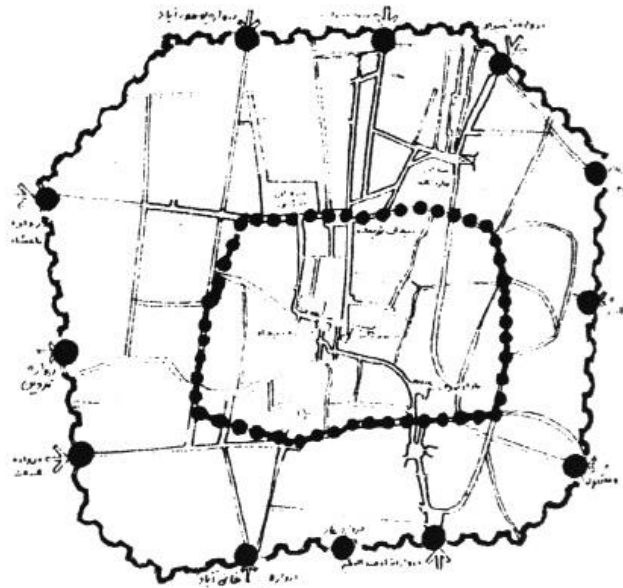
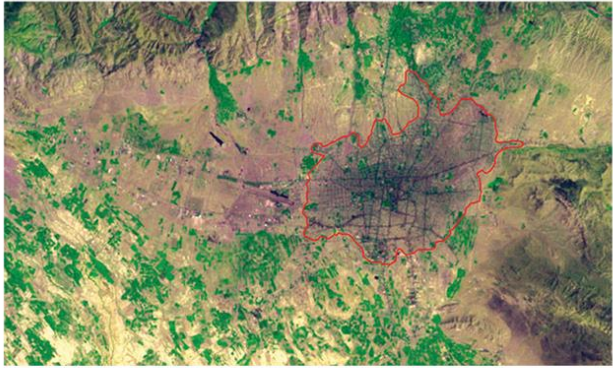
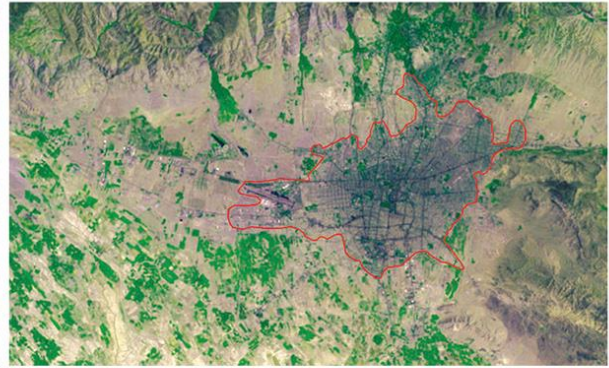


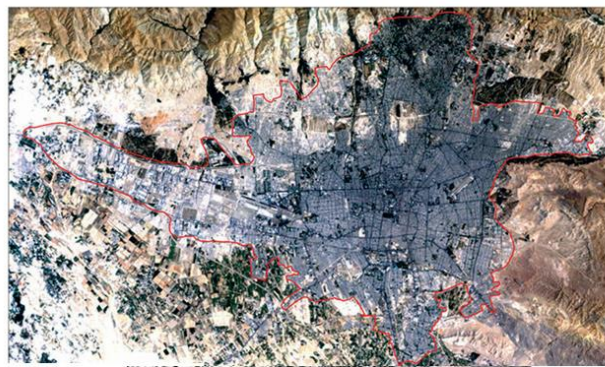
Figure 13. Diagram of the City with Fortification from 1848 to 1921



1972



1974



1991



1983



1999



2015

Figure 14. The city of Tehran historical development

3.4 Culture

From the south toward the north, the height of the land increases. Thus, the height difference between the low parts reaches 900 meters and the high parts reaches 1800 meters (Figure 15).²⁰ Moreover, the height differences among various districts result in cooler weather in the hilly north than the flat southern part of Tehran. As a result, this difference in climate has contributed to the different socio-spatial organization of the city.

As we move from the south to the north, we observe many changes in natural conditions, environmental structure, property value, service access, and social conditions (Figure 16-17). Accordingly, while the southern part has a lower socio-economic background with more traditional and religious ties, the northern part is the home of socio-economically well-off inhabitants with more cosmopolitan tendencies and a lesser degree of religious attachment.

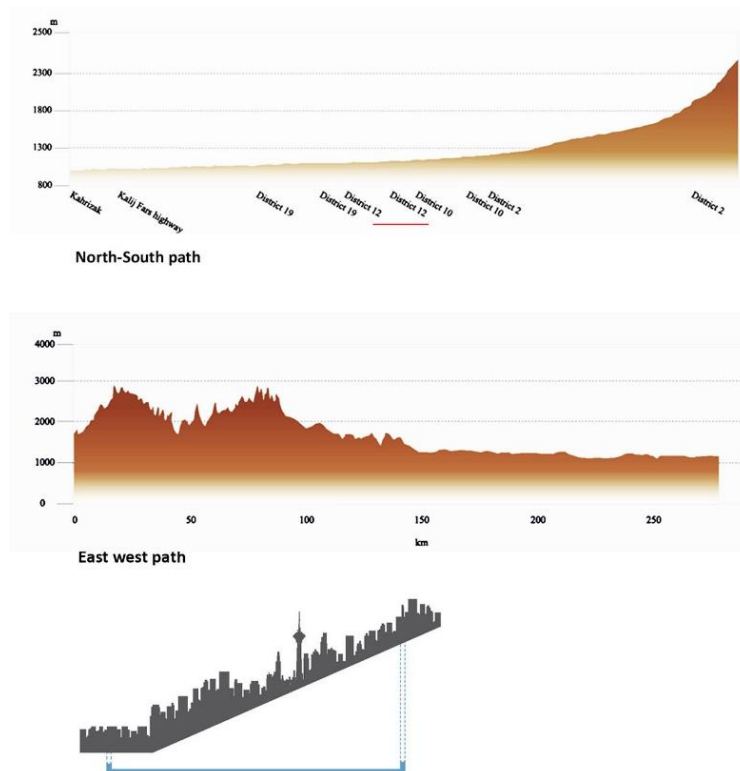


Figure 15. North-south height defence

²⁰ 2006. *Atlas of Tehran Metropolis*. Feb 25. Accessed Nov 12, 2018. <http://atlas.tehran.ir>

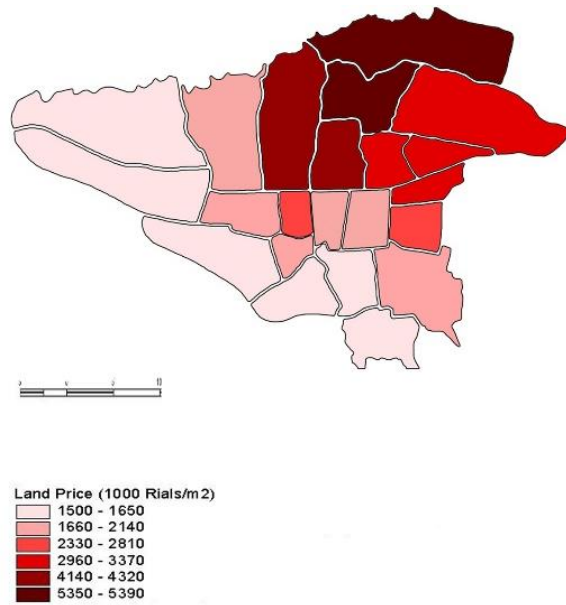


Figure 16. North-South land price



Figure 17. North-South property condition

3.5 Current situation

The city of Tehran is divided into 22 municipal districts with individual administrative centers (Figure 18). District 12 is the original core of the city which includes a large number of important buildings constructed during the reign of Reza Shah, some of which are well preserved. Although most of the buildings in this area are governmental complexes, some have cultural, religious and educational significance (Figure 20).²¹

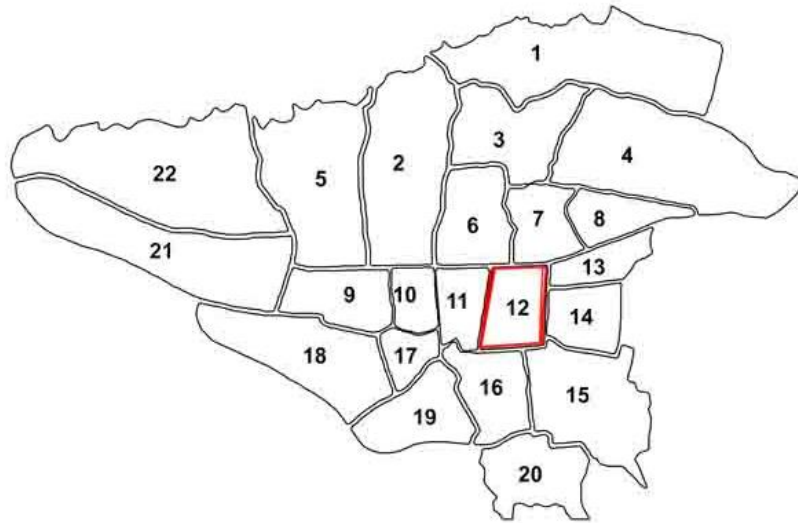


Figure 18. The city of Tehran municipal districts division – The original core

²¹ 2006. *Atlas of Tehran Metropolis*. Feb 25. Accessed Nov 12, 2018. <http://atlas.tehran.ir/>

3.6 Spatial organization

A large number of factors affect the city's spatial organization. The most important ones are the city's environmental, historical, and economic, and transportation structures. Wholesalers are mainly settled in the center of the city with a tendency to occur toward the north. The most important centers of activity are located in the commercial centers such as the Bazaar which function as public spaces where people walk, spend their time and do shopping. (Figure 19).

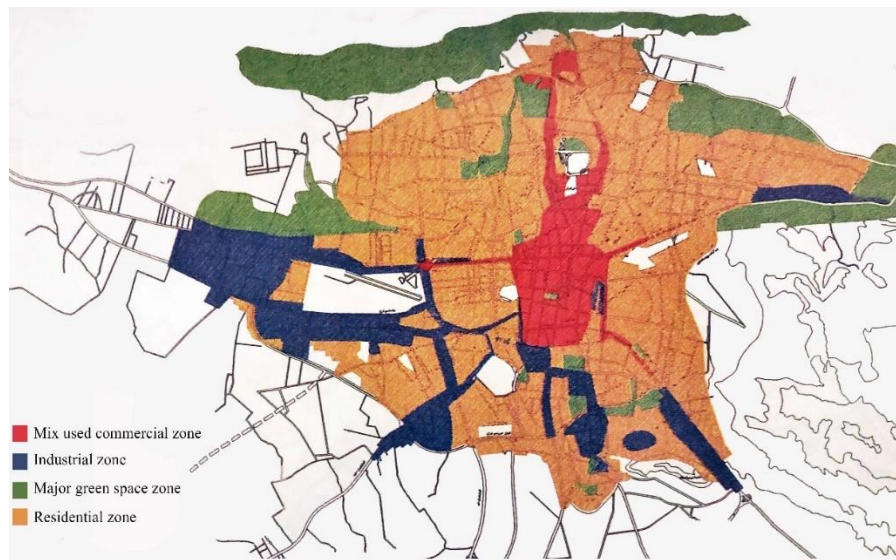


Figure 19. Spatial organization diagram of Tehran



Figure 20. Spatial organization - District 12

3.7 Lack of public green spaces

3.7.1 Built up ratio

The central and southern part of the city are densely populated owing to the small size of the residential units. The density in this region is almost twice as much as the average density of Tehran. District 22 has the most and districts 7, 8 and 17 have the least areas of open spaces. In districts 7, 12, 14 the area devoted to buildings is far greater than the area devoted to public green spaces²² (Figure 21).

3.7.2 Public green spaces per capita

In the city of Tehran, urban green spaces per capita vary from one district to another. While district 19 with 61.3 square meters per capita enjoys the largest urban green space (over twice the standard set for the city), other districts are struggling with lack of green spaces. Likewise, district 10 with only 1.8 square meters, represents the lowest urban green spaces per capita in Tehran.²³

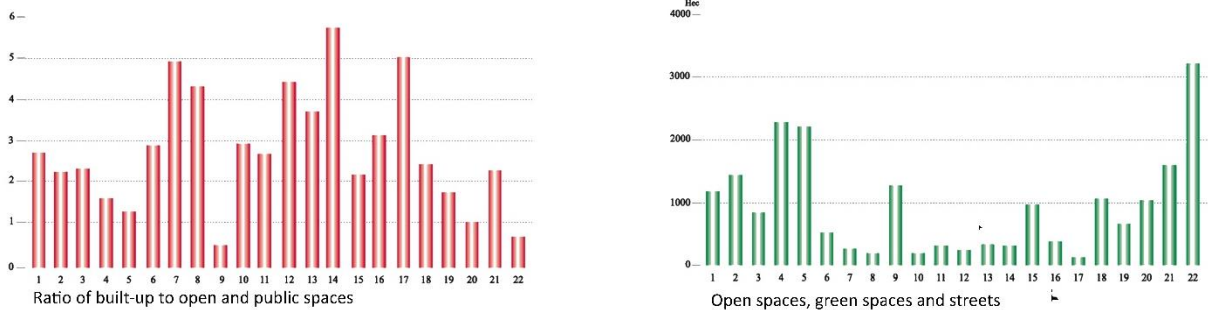


Figure 21. Comparing built up and open green space in each district

²² 2006. *System of open and built up spaces*. Feb 25. Accessed Nov 12, 2018. <http://atlas.tehran.ir://atlas.tehran.ir/>

²³ Ibid



Figure 22. Green space per capita diagram



Figure 23. Built up ratio diagram

4 DESIGN

4.1 Background

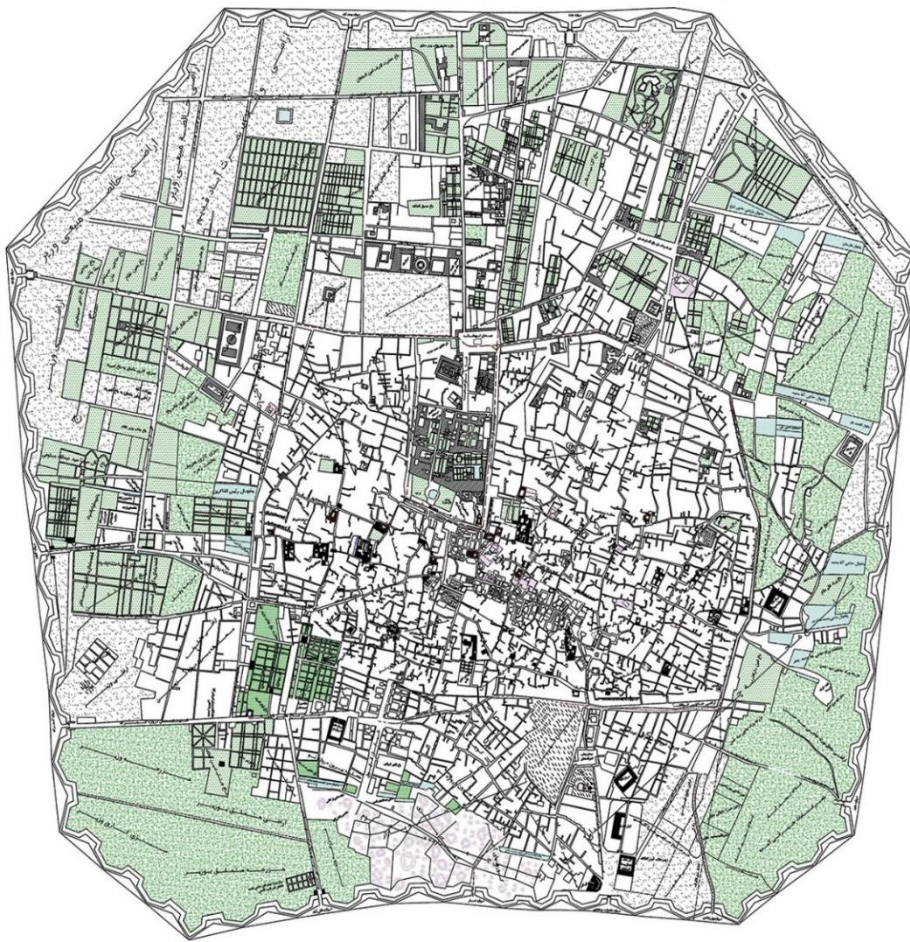


Figure 24. Map of Tehran in 1890

By looking at the map of Tehran in 1890, we can identify the location of the old gardens on the current map of Tehran (Figure 24). Therefore I used this map to determine what they have been replaced with and which ones are feasible to be restored.



Figure 25. Old location of gardens on the recent map of Tehran (2016)

Figure 25 illustrates the location of the old gardens on the current map of the old Tehran. Almost all of these gardens got absorb to the city fabric, and they have not been replaced with much public green space.



Figure 26. Current map of Tehran (2016)

As shown on Figure 26 the only two original gardens that are still intact are the gardens of the embassies, and the only major park in the region 12 is an English park which is called the city park.

Accordingly, nothing has remained from the history and identity of the old Tehran. My goal is to bring some of these gardens back to the old center and integrate them into the contemporary landscape of Tehran.

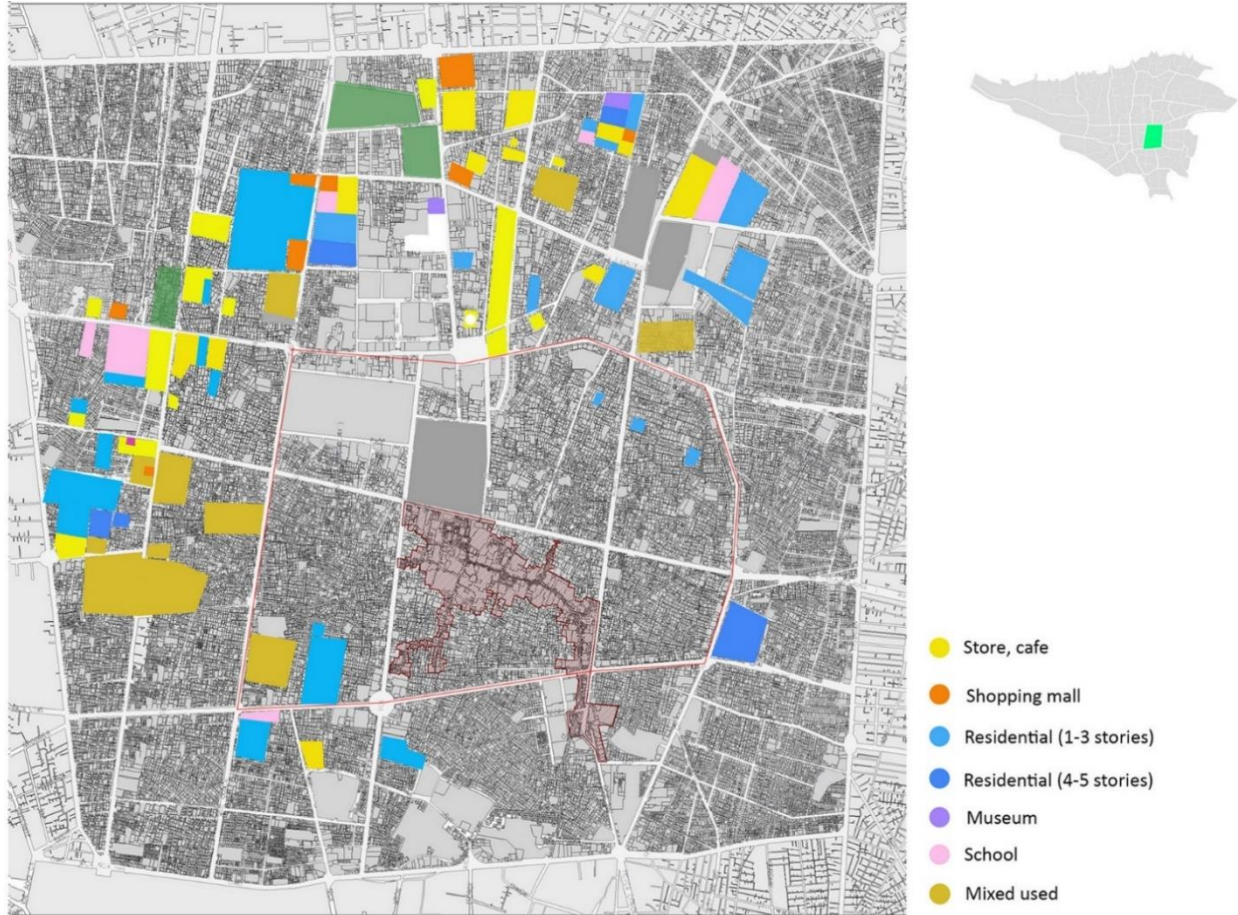


Figure 27. The current land use of the old gardens location

Figure 27 illustrates the current land use of the city and identifies what the old gardens have turned into over the years. Most of these gardens were abandoned due to the physical transformations of the city in 1970. Therefore, many of them have been replaced by a small scale urban fabric filled with storages and garage facilities.

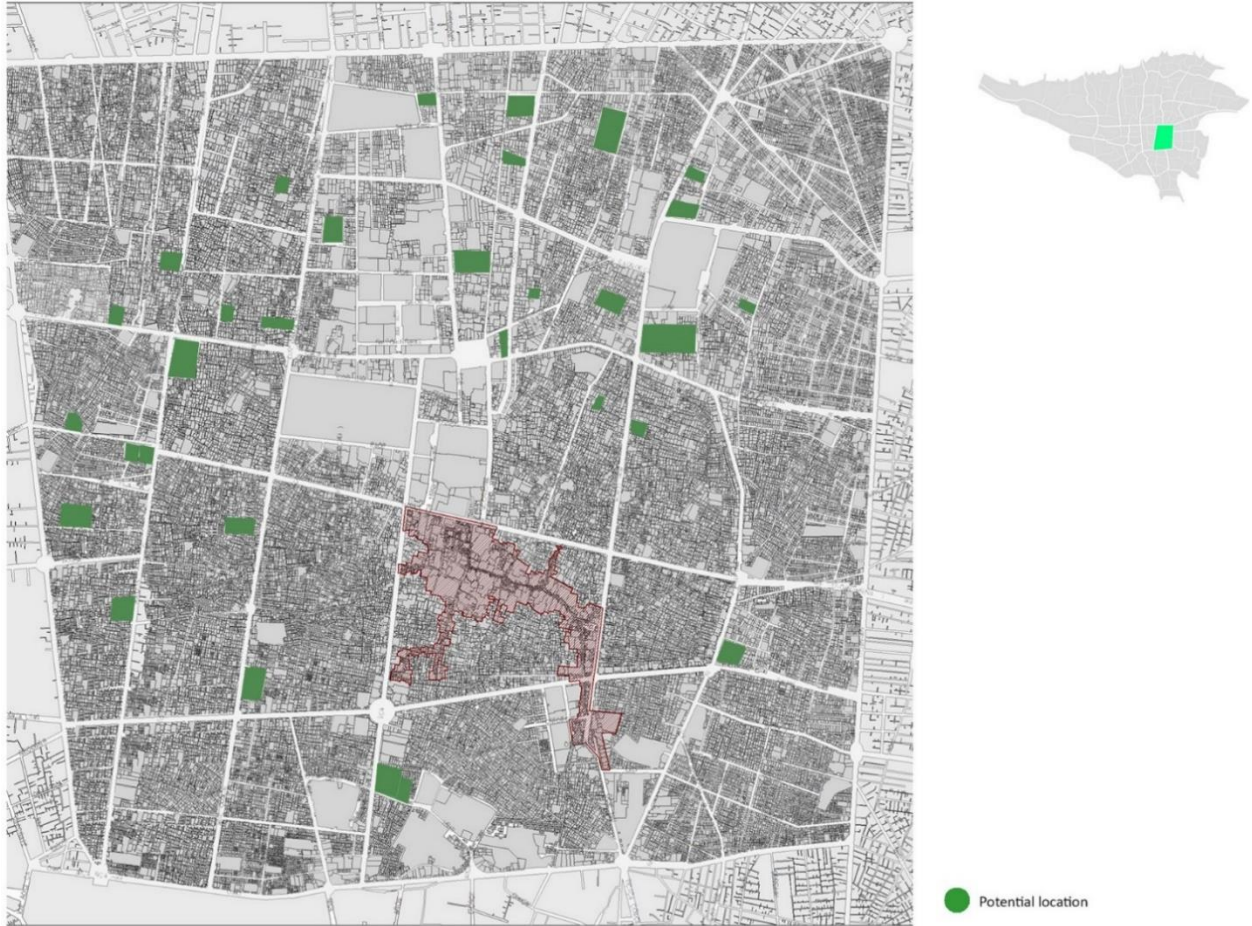


Figure 28. Potential sites for recovering the old gardens

Accordingly, I identified the locations of the old gardens which are underbuilt by old storage spaces and garage facilities. Thus, I mapped out all the potential locations to bring gardens back into Tehran by recovering these sort of underused spaces (Figure 28).

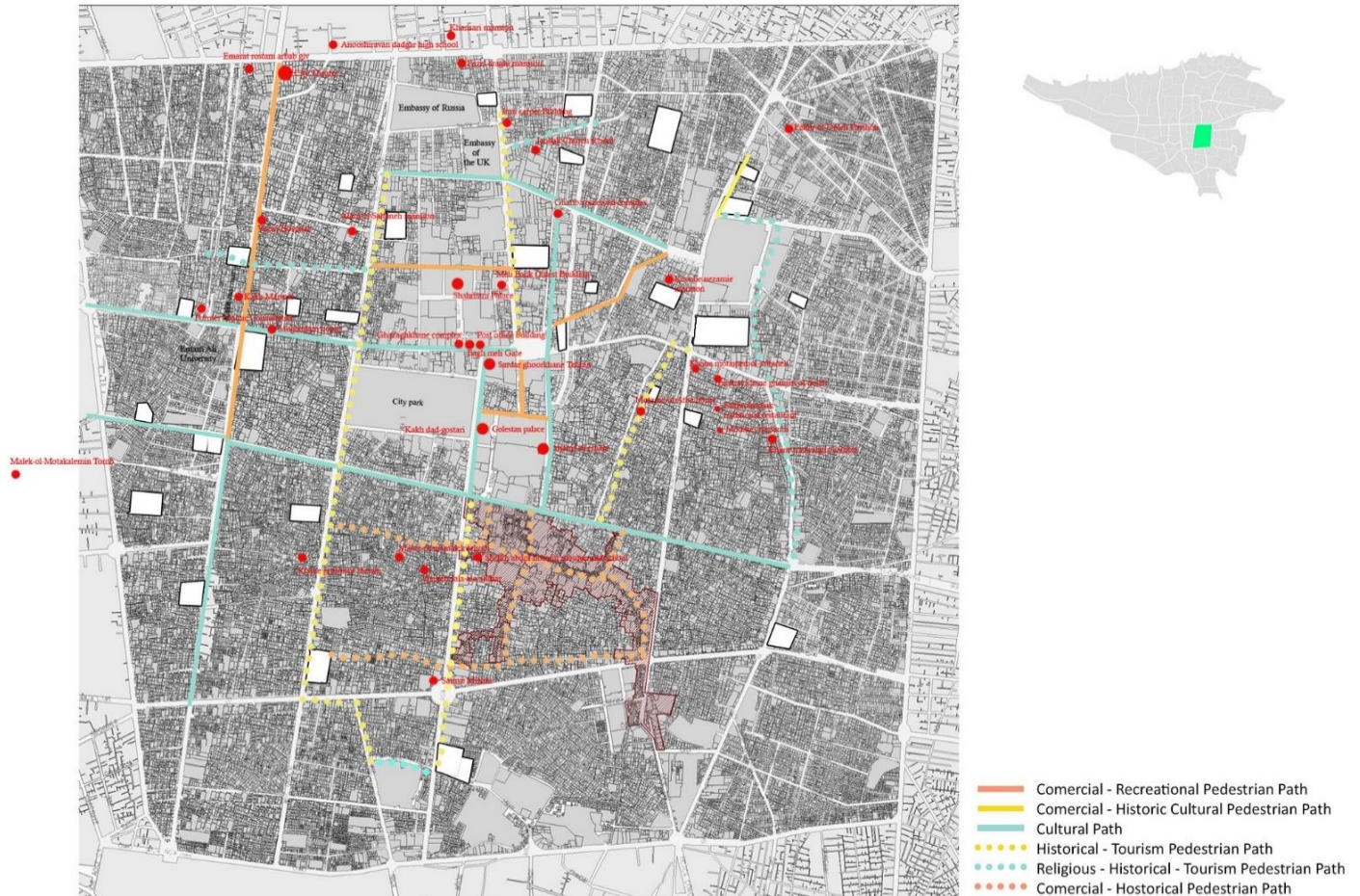


Figure 29. Significant buildings and historic land marks across the downtown area

As discussed, the most historic monuments of the city are located within the central part (Figure 29) and play a significant role in introducing the identity of Tehran. However, due to the lack of public space in this area, these buildings have been overlooked by the public. Thus, the recreation of these gardens will make the city more walkable and will make these historic buildings more accessible by the public.

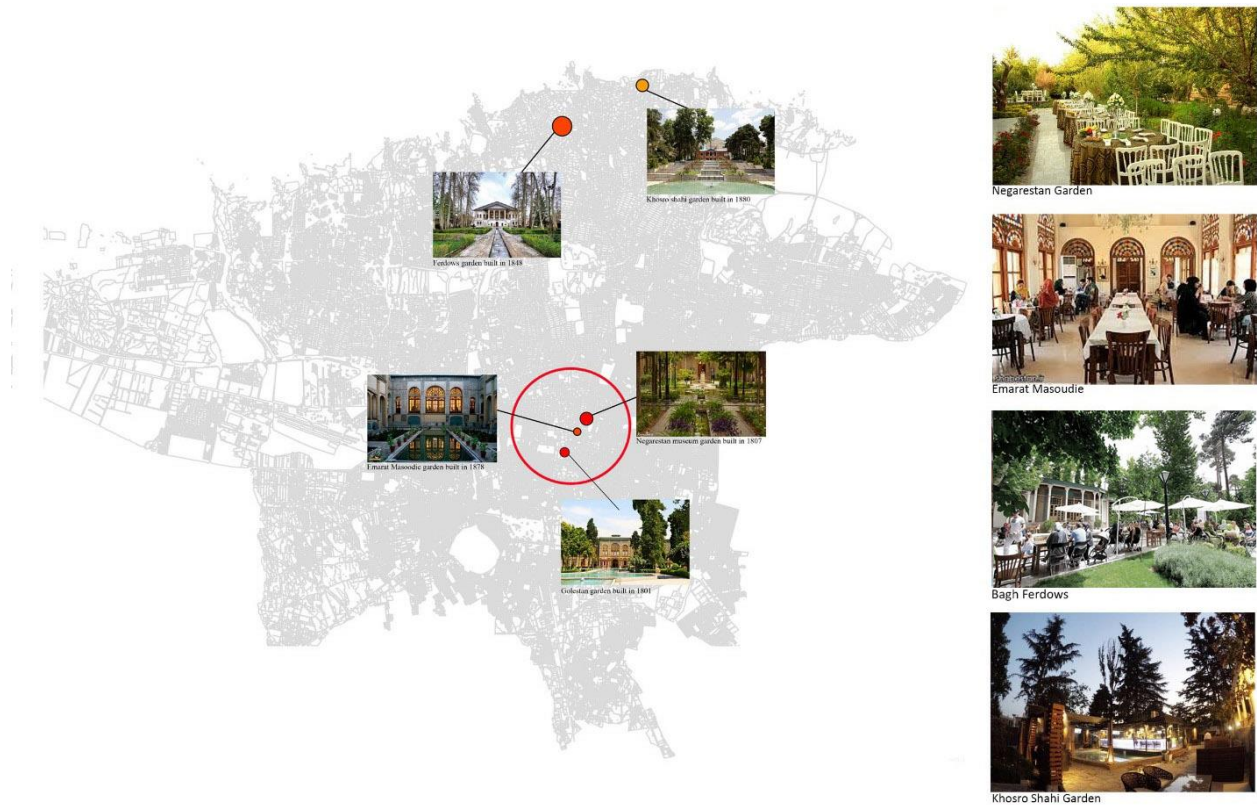


Figure 30. Location of the existing public gardens in Tehran

Recreating these gardens and creating these kind of public spaces will benefit the public as well. As an example, there are few gardens which have not destroyed and are still intact. This gardens today are popular places for people to visit and spend time in. Accordingly, creating such public environments are effective, and the public will appreciate them.

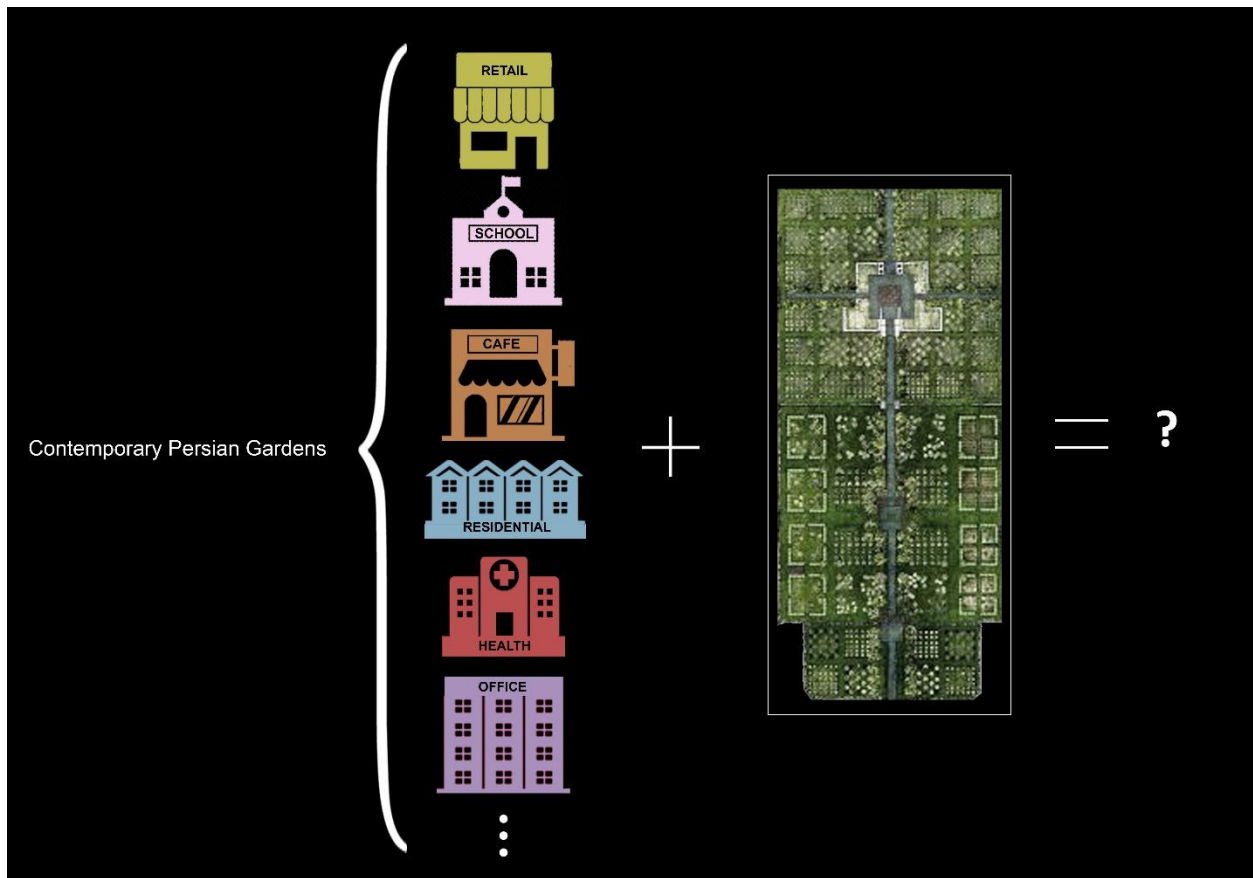


Figure 31. Diagram of contemporary Persian garden design

As Persian gardens were generally existed to serve aristocrats, they need to be more than just a garden to survive in a contemporary world.

In my thesis, I'm bringing the lost Gardens back to Tehran by adding different programs so they can adapt to the contemporary modern environment. Since these gardens were never available to the public, and they were essentially aristocratic, I'm bringing these gardens back to the daily life of people.



PARKING + GARDEN

4.2 DESIGN PROPOSALS

4.2.1 Design I: Garden Parking Lot

In my first design experiment, the challenge was to find a solution to have more balance between nature and contemporary artificial environment such a parking lot. The site of the project consists of two parking lots that were built over the garden (Figure 33).

However, the intervention site takes a small section of the original site of the garden which contains old fabric and needs restoration (Figure 34).

At the beginning of the design phase, I got very inspired by the book called the enclosed garden by Rob Aben and Saska de Wit. In 1999 they proposed a number of public enclosed gardens for Rotterdam Netherlands. These small enclosed gardens located next to places that have the most congestion and environmental pollution in the city. They describe how the enclosed garden could be conceived as a microcosm.²⁴ This historical treatment is especially relevant to landscape design today as urban environments increasingly demand solutions for small spaces.



Figure 32. The proposed enclosed gardens by Rob Aben and Saska de Wit in Rotterdam, Netherlands - 1999

²⁴ Aben, Rob, and Saskia De Wit. *The Enclosed Garden: History and development of the Hortus Conclusus and its reintroduction into the present-day urban landscape*. 010 Publishers, 1999.

“There is no freedom in the desert. Though there are no fences, no posts. It is better – if you wish to be free – to elegantly wander through a labyrinth.”

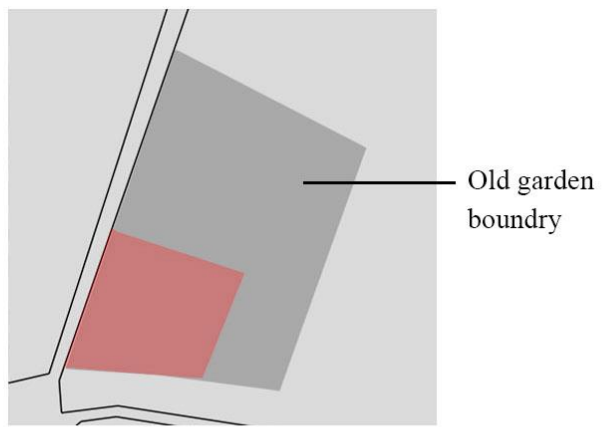
Gerrit Komrij, 1984



Surrounding buildings of the site



Map of the lost gardens and the selected site for revival



The original site of the garden compared to the intervention site

Figure 33. The location of the site (old location of the garden)



Figure 34. Photos of the old fabric of the potential site – Parking lot

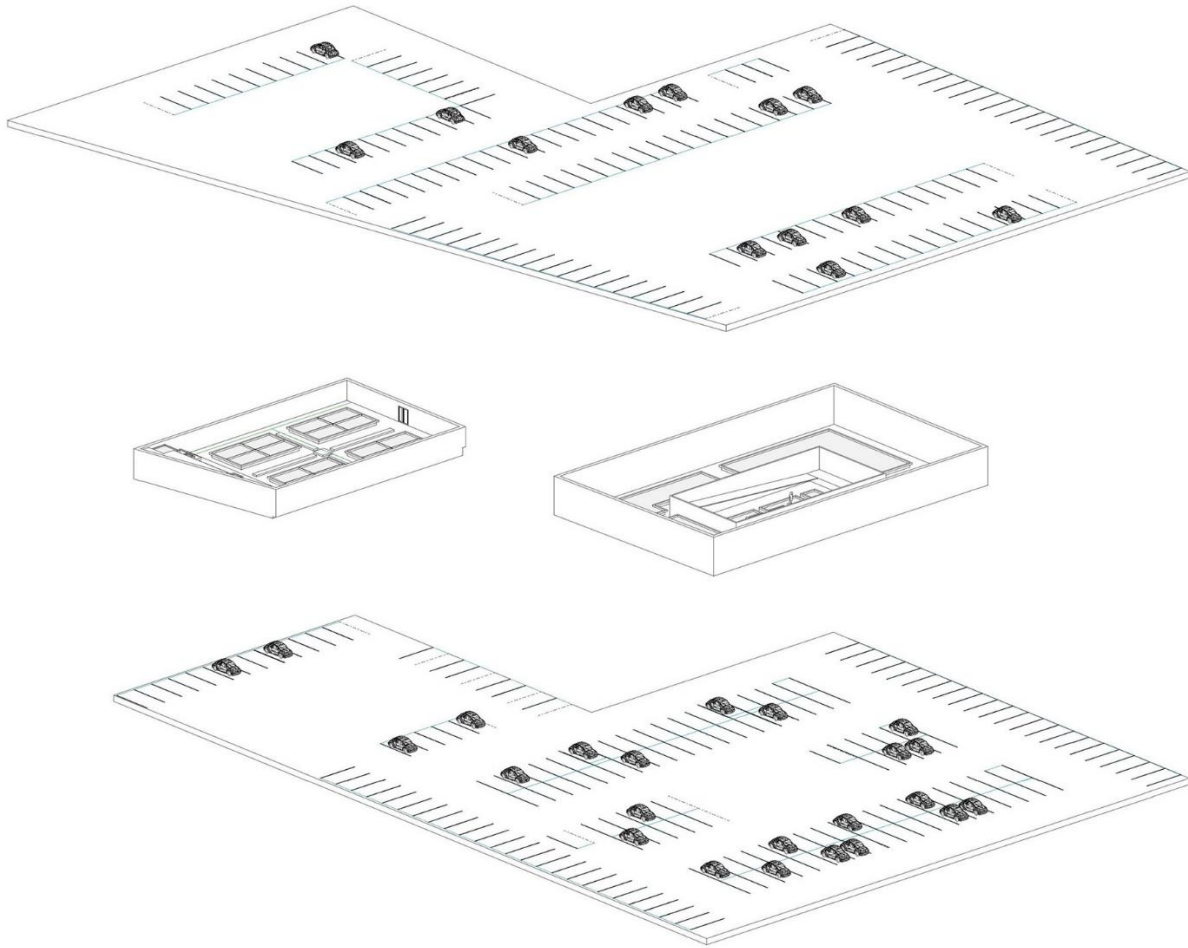


Figure 35. Basic concept diagram

The main idea in this design is to bring enclosed garden into the parking lot. Since the garden is taking some of the parking space an underground level has been considered (Figure 35).

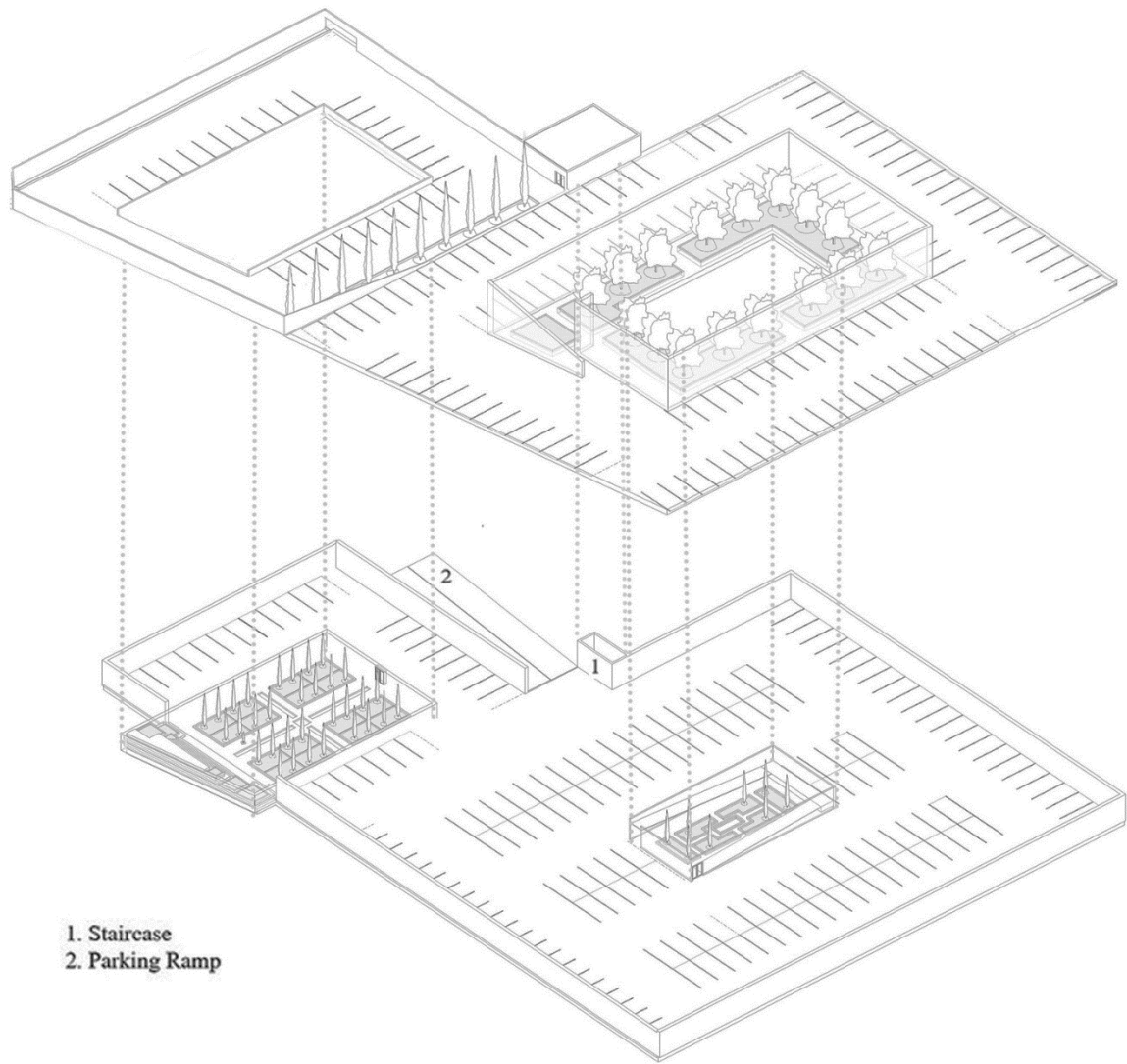


Figure 36. Axonometric diagram illustrating the spatial relationship between the two levels

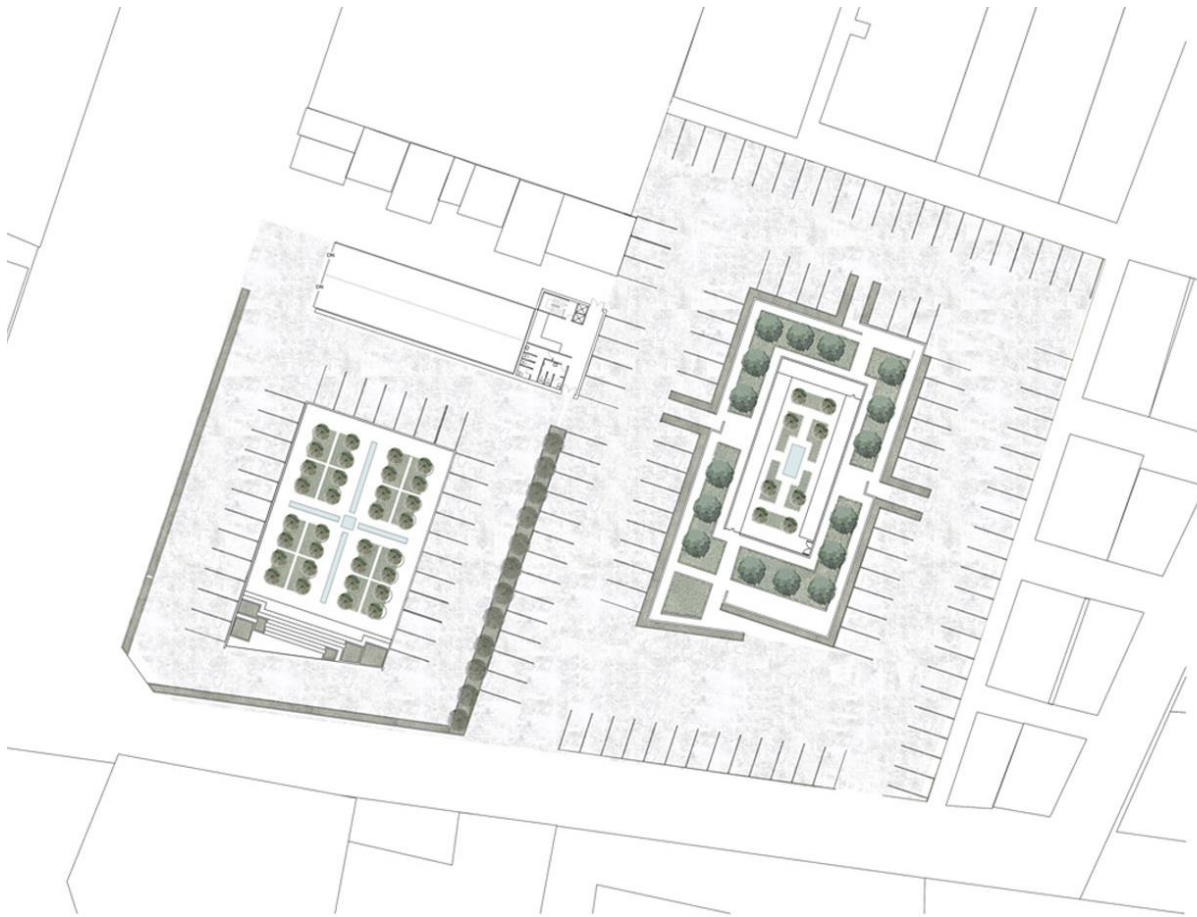


Figure 37. Ground level floor plan

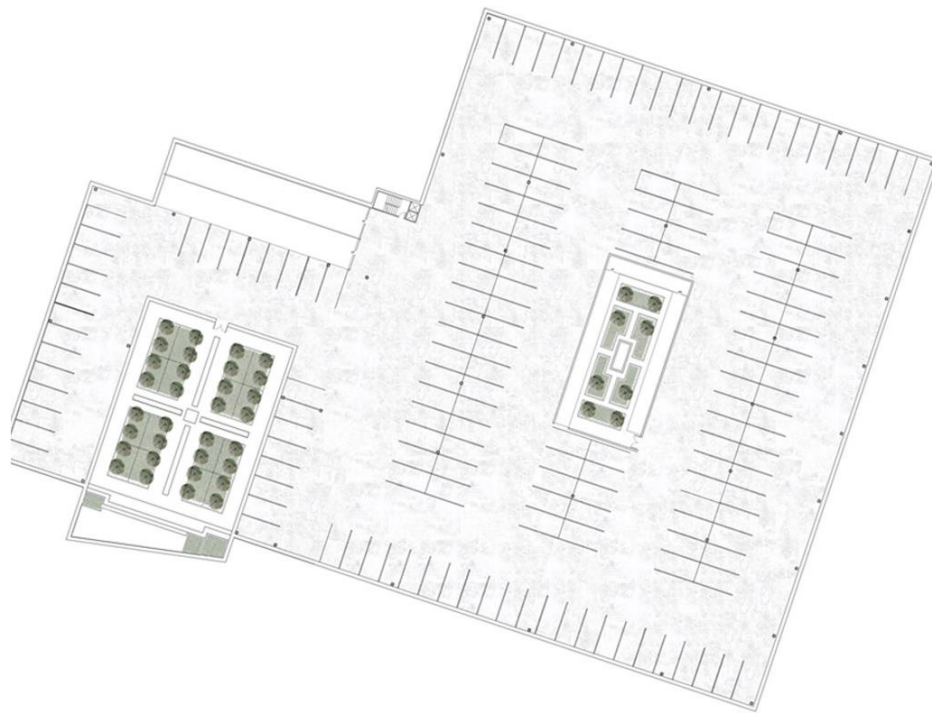


Figure 38. Underground level floor plan

In a condensed city such as Tehran, the enclosed garden is a tantalizing substitute for the landscape, a suggestion of space where this is lacking.

On one side, the parking space is a part of the enclosed garden as the walls surrounding it. There is a line of cypress trees that kind of separates these two parking spaces and vines that grow around the inside wall of the enclosure of the parking lot. The stairs descend to the enclosed garden (music garden) below. The edge of the garden provides series of wide stairs where people can sit, rest, play music and enjoy the view of the garden (Figure 40).

On the other side, the two story garden is a sort of secrete mysterious world in the middle of the parking lot (Figure 44). From the lower level, people can park their car and have access to the garden. Thus, instead of an elevator lobby, they will find themselves in an enclosed garden. The ramp that wraps around the garden leads to the upper level which is another enclosed garden. Therefore, I used the garden as an entrance into the lower spaces as well to create a sort of a relationship between the both levels (Figure 36).

The surroundings of the site make this place a perfect neighborhood square where people can park their car to visit the local stores, mosque, and hospital (Figure 39). As a result, people have access to these gardens in their daily life activities even if they are too busy or do not have enough time throughout the day to spend time in these spaces and find peace for a few moments.

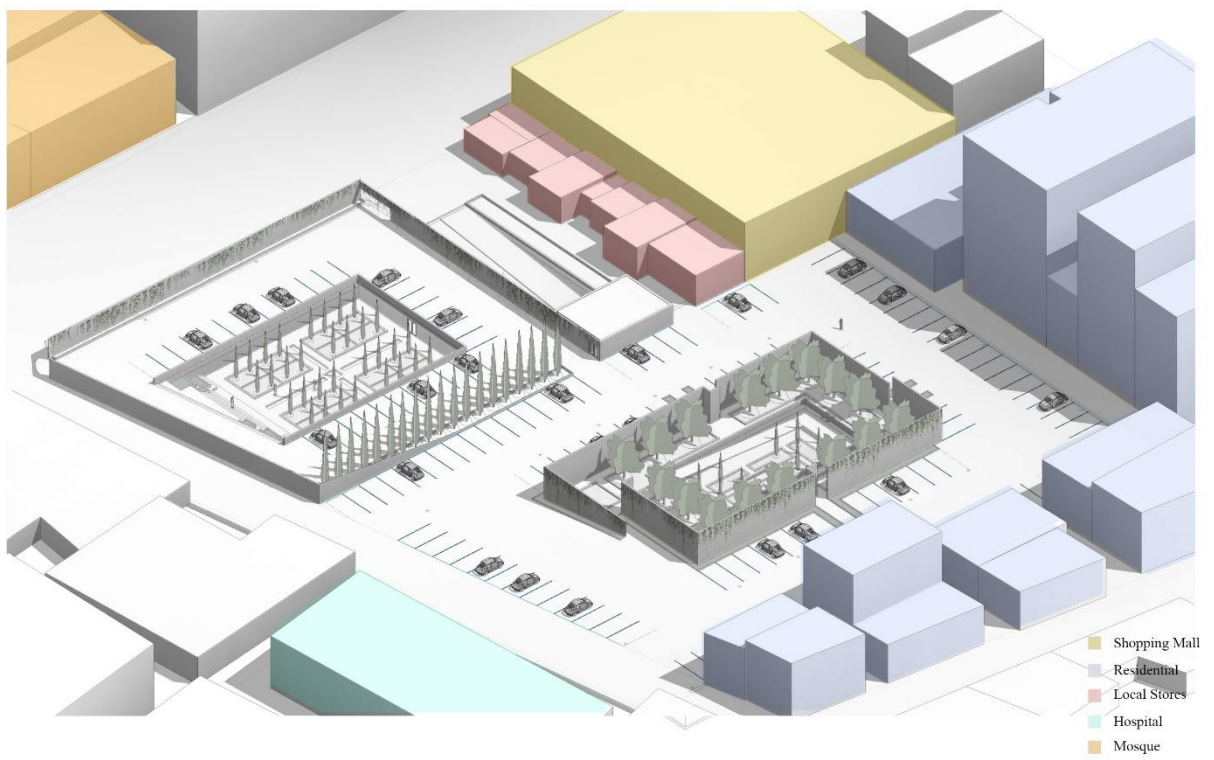


Figure 39. Diagram of the surrounding programs

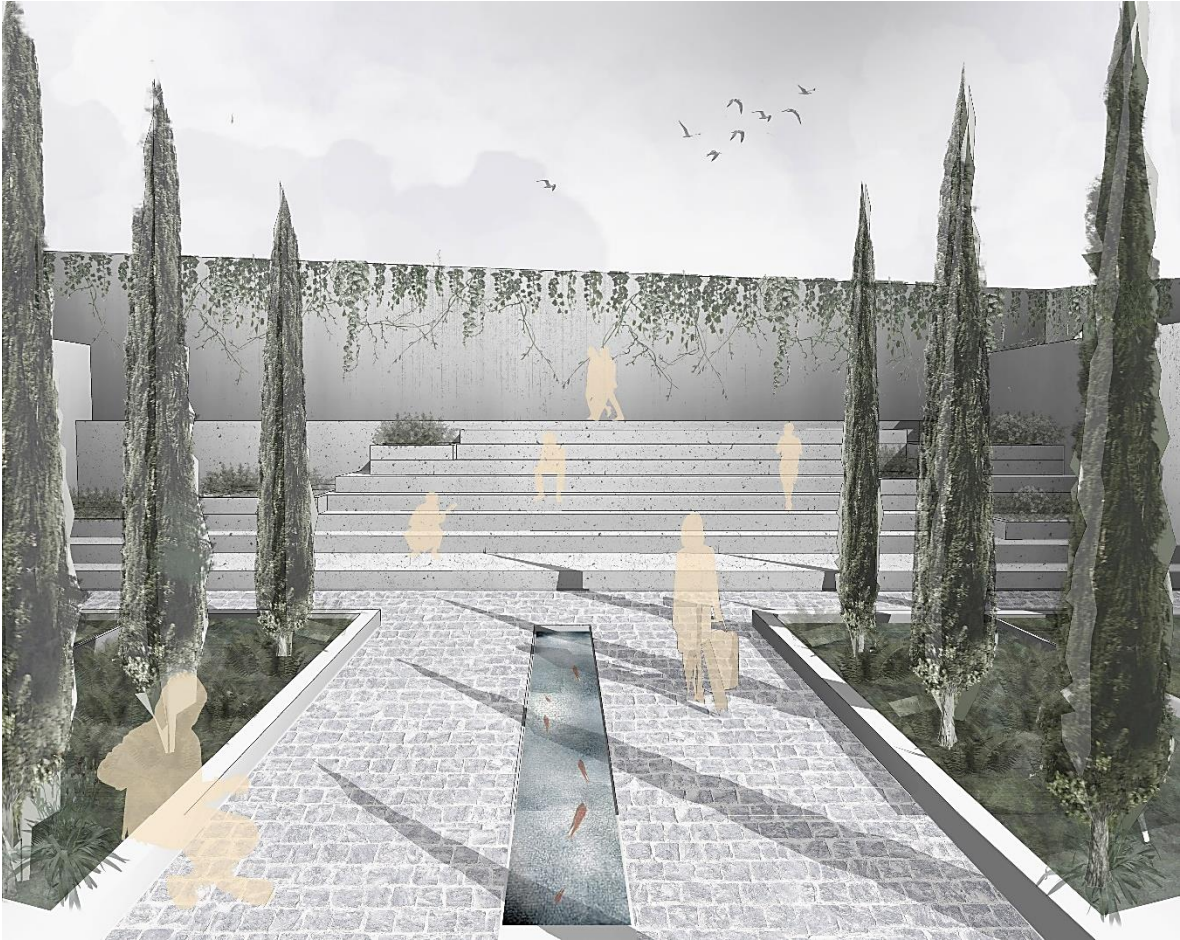


Figure 40. The music garden

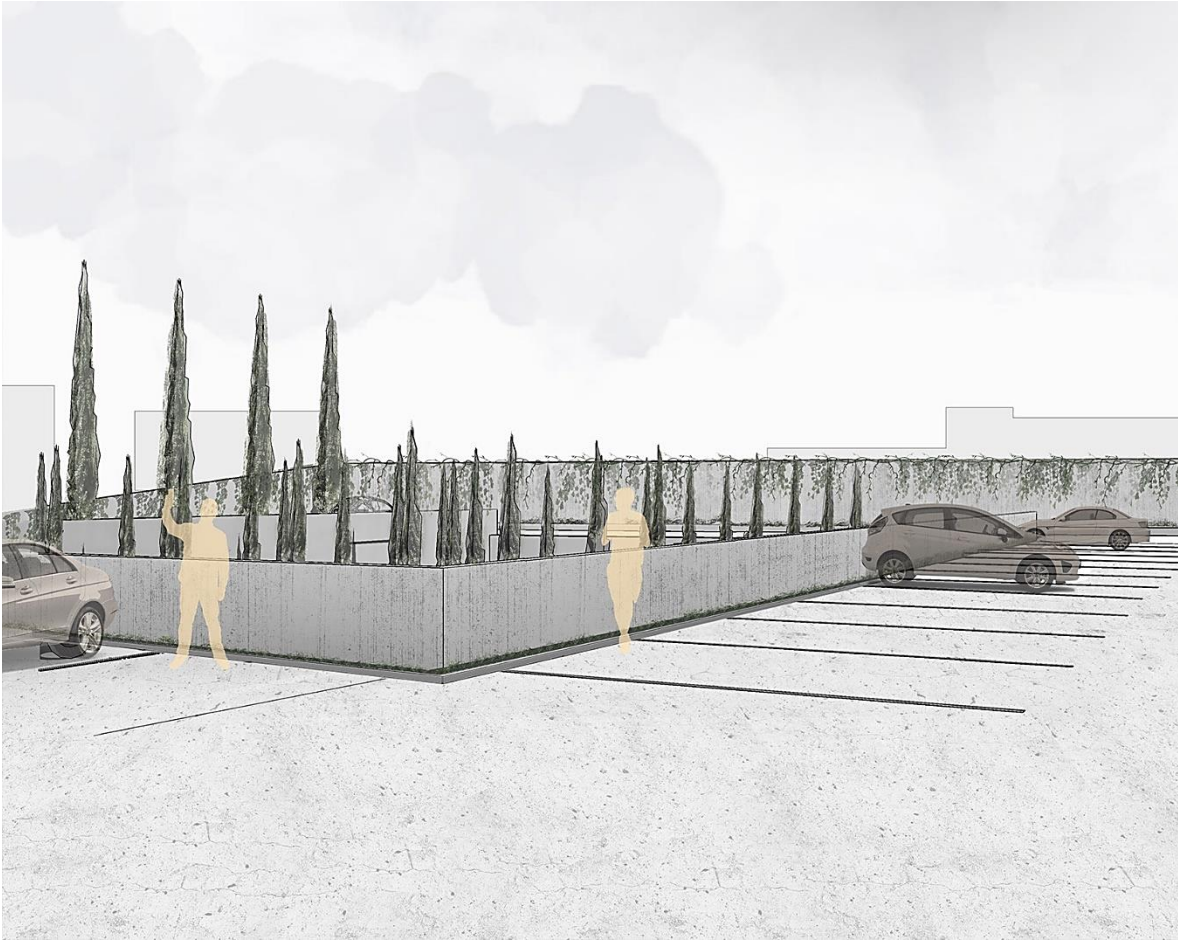


Figure 41. The music garden view from the parking lot



Figure 42. View form the sunken garden



Figure 43. View form the upper level of the garden



Figure 44. View of the enclosed two-story garden from the parking lot.

The concrete walls leave just the top of trees in sight (Figure 44). Therefore, the garden cannot be seen from the outside, but there is some indication that these walls are hiding something marvelous; giving some glimpses in from the parking lot.

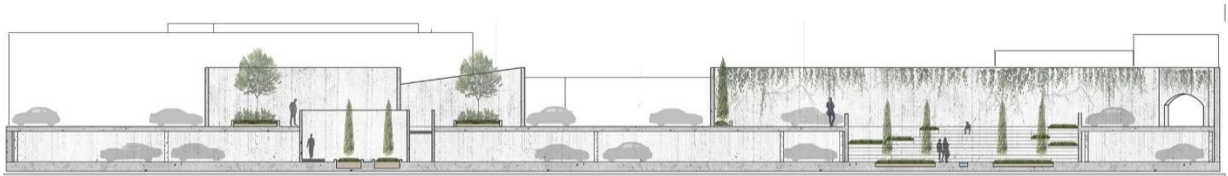
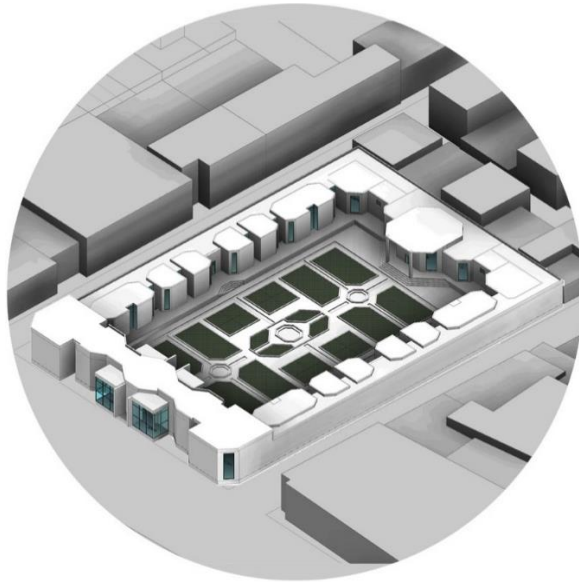


Figure 45. Section elevation



PARKING + SCHOOL

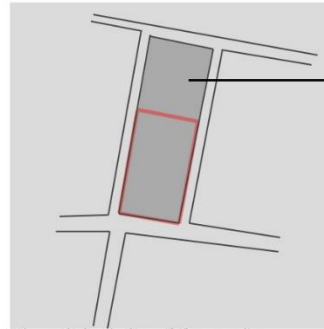
4.2.2 Design II: Elementary School Garden



Significant buildings adjacent to the site



Map of the lost gardens and the selected site for revival



The original site of the garden compared to the intervention site

Figure 46. Location of the site (old location of the garden)

For the second project, I decided to design a garden within an elementary school. The location of the site provides a great opportunity for creating an educational institution. There is a major university adjacent to this site, and a museum on the east side while on the west side, it is close to a major square and a public library.



Figure 47. Photos of the site. There are newly built residential apartments which are kept in the site. However, the majority of the site is filled with stores and storages which are going to be recovered.

Persian carpet

Part of my research was to study Persian carpet as an artifact that holds the memory of the garden. The traditional Persian Garden design has influenced Persian carpet patterns. One could easily notice the main garden elements within the carpet (Figure 48).²⁵

There are no records of the historic gardens in the 16th century and earlier, however there are carpets from that time that emulate gardens and give us examples of how the gardens may have been designed. Therefore, in my design experiment, I used the traditional Persian carpet patterns to reconstruct the garden.

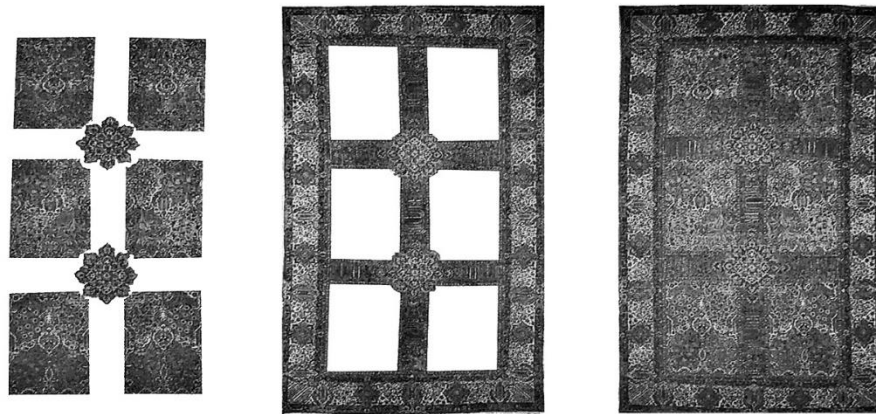


Figure 48. Diagram of Persian carpet

²⁵ Thacker, Christopher. *The history of gardens*. University of California Press, 1985: 65.

“As for carpets, they were originally reproductions of gardens (the garden is a rug onto which the whole world comes to enact its symbolic perfection, and the rug is a sort of garden that can move across space). The garden is the smallest parcel of the world and then it is the totality of the world.

Michel Foucault, 1967

The Entrance

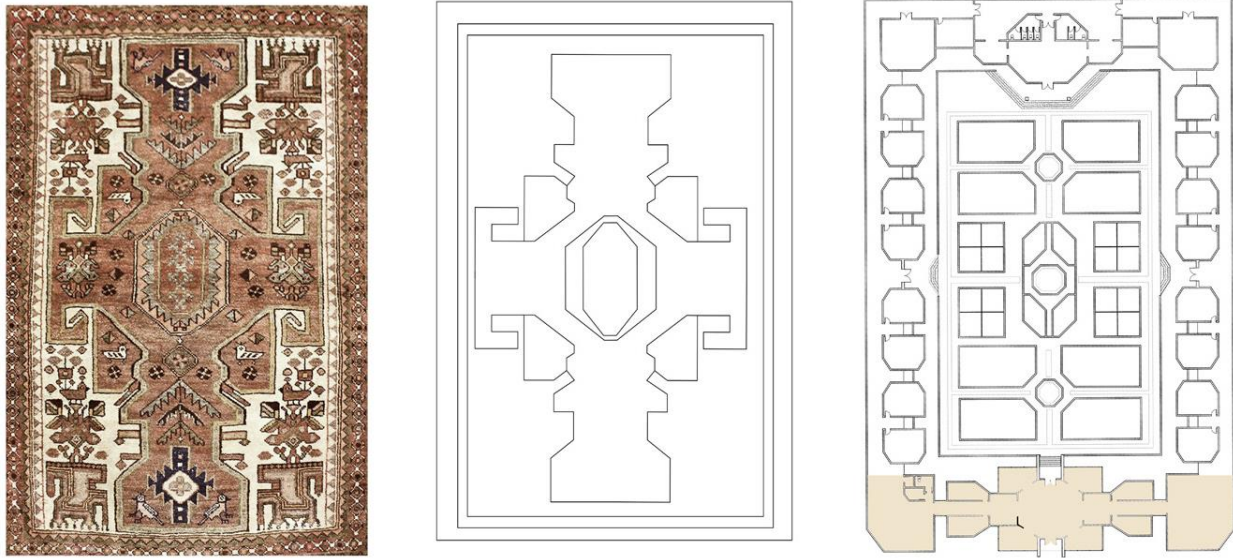


Figure 49. Diagram of the building's entrance based on the carpet patterns

In line with the concept of introversion as an Iranian approach to design, gardens were surrounded by non-transparent walls.²⁶ Through this inaccessible boundary, defining the point of entrance becomes important; usually in the form of a building or viewpoint. I took the pattern of this carpet which consists elements of nomadic and geometric motifs, to form the entrance structure of the garden. (Figure 49)

²⁶ Mahmoudi Farahani, Leila, Bahareh Motamed, and Elmira Jamei. "Persian gardens: Meanings, symbolism, and design." *Landscape online* 46 (2016): 8.

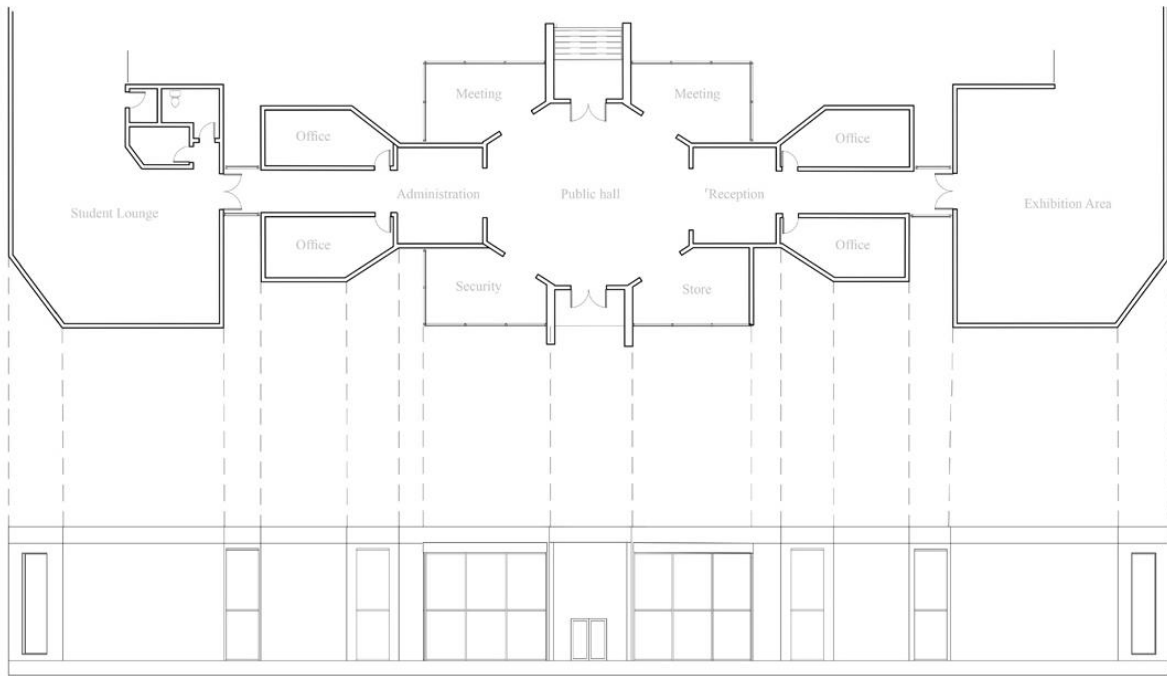


Figure 50. Floor plan and elevation of the building entrance

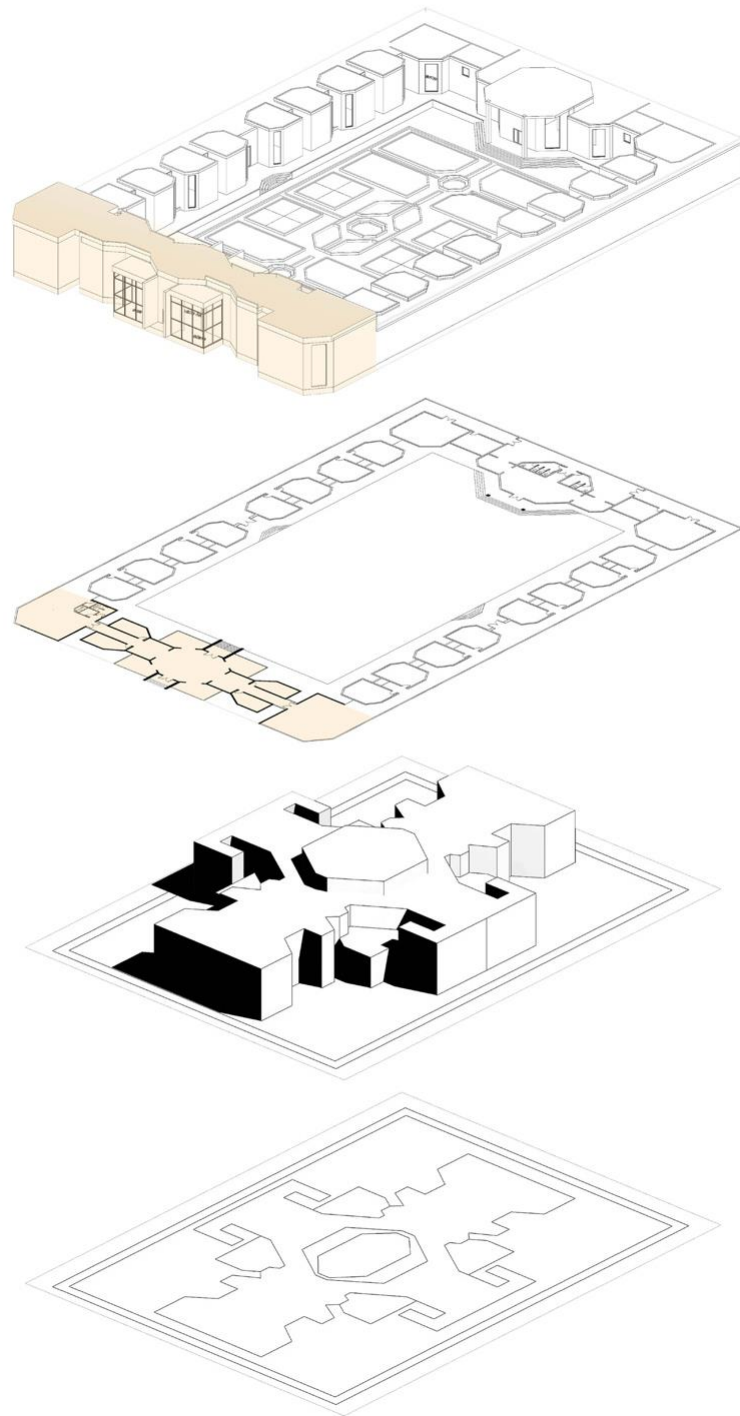


Figure 51. Diagram of forming the entrance structure based on the pattern of the carpet

The Medallion

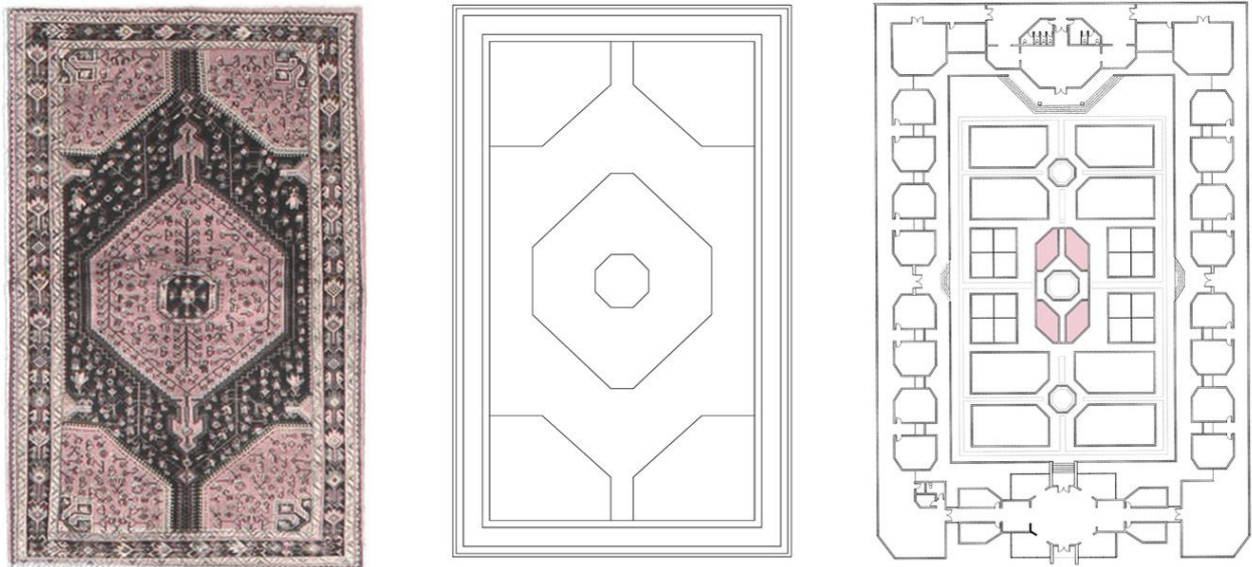


Figure 52. Diagram of the medallion

The most popular symbols in Persian rugs is the medallion, which is a symmetrical pattern occupying the center of the field. The central pool is located in this area and it is filled with variety of flowers and trees. From the patterns of the carpets, we can identify the kind of flowers and trees they used to plant. Many flowers are easily recognized, such as the tulip, rose, narcissus, and carnation which are planted in the center part of the garden around the central pool (Figure 53).²⁷

²⁷ Herrada, Mario. 2016. *The Persian Rug's "Medallion" Pattern - "Garden Of Paradise"*. March 16. Accessed November 15, 2018. <http://www.zaicd.com>.



Persian Carpet Flower Symbols



Tulip



Narcissus



Carnation



Rose

Figure 53. Types of flowers used in the Persian carpet medallion

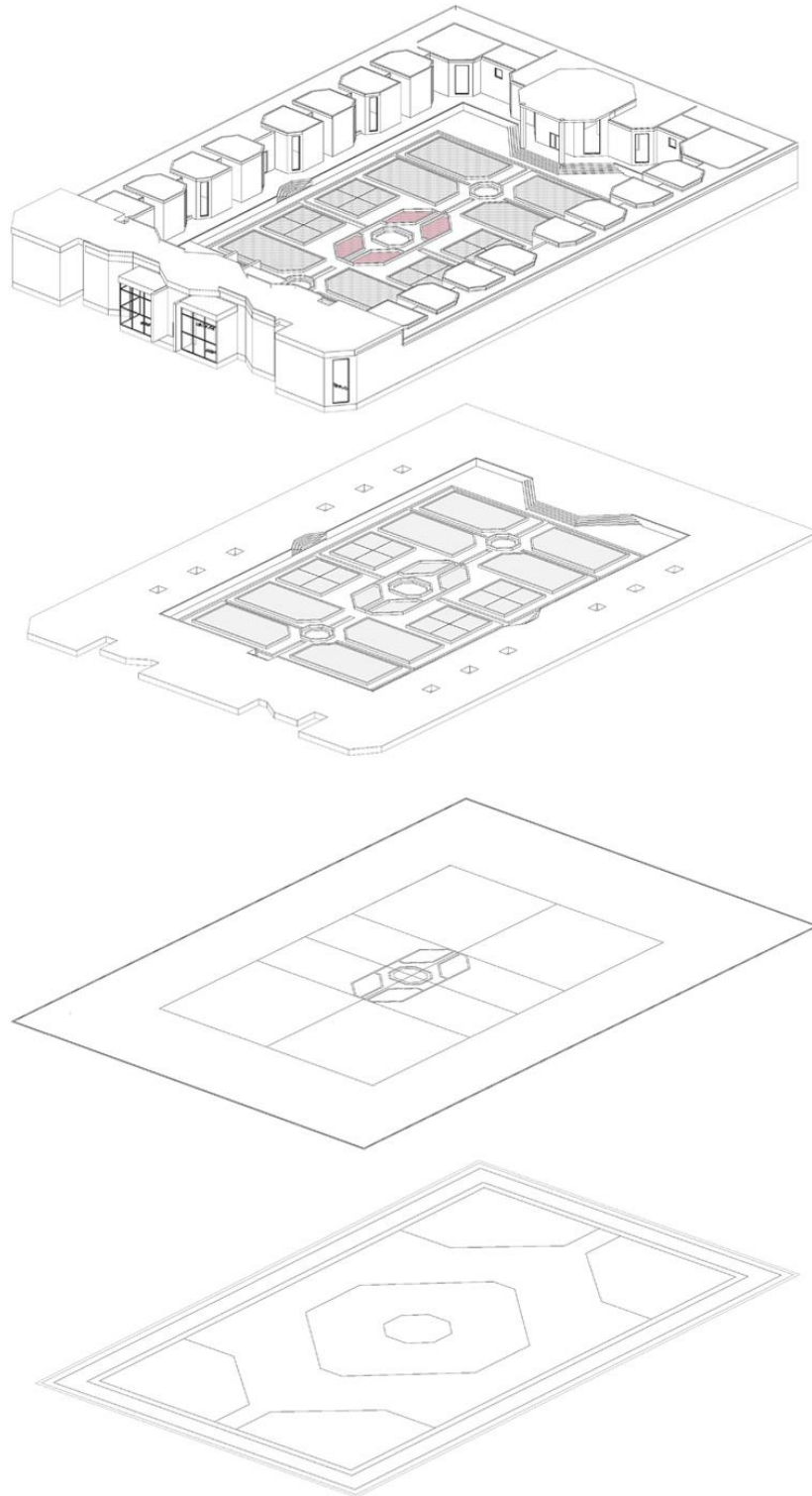


Figure 54. Diagram of forming the central structure of the garden based on the pattern of the carpet

The Wall

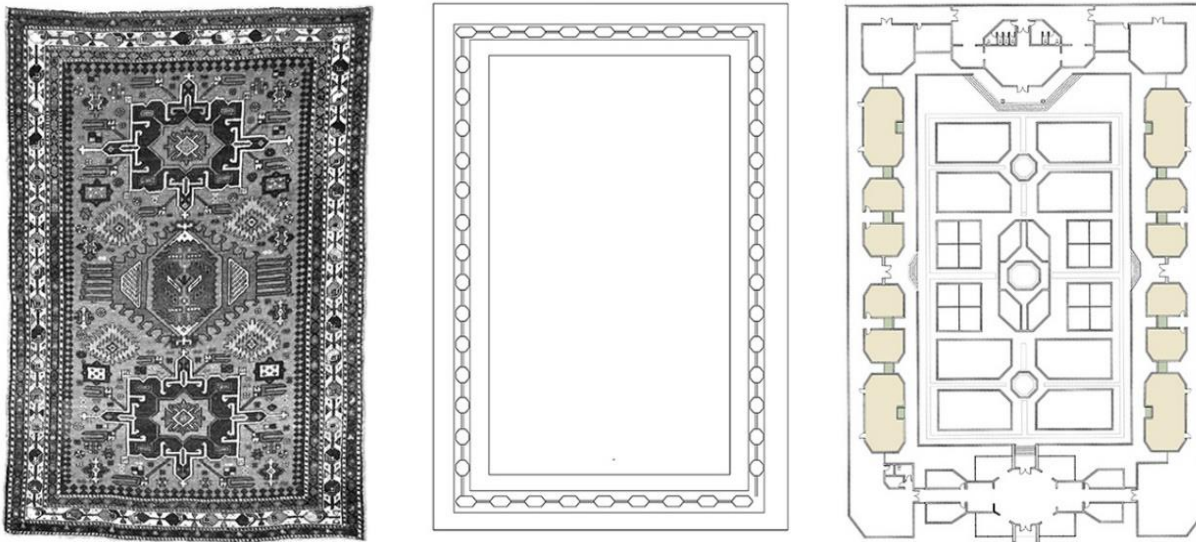


Figure 55. Diagram of the wall

In all the Persian carpets, the borders woven around the field represent the walls around the gardens. Interestingly, the word "Paradise" comes from an ancient Persian word "Pairidaeza" which literally means "Walled garden". It was believed that Paradise garden is enclosed by several walls (usually seven), one of which in the middle is taller and wider than the others to keep the evil out.²⁸ The geometric shape that is repeated around the carpet forms the shape of the classrooms which are placed on both sides of the garden and are connected by the small patches of green space. The series of borders in the carpet (The seven Walls) create the corridor and the porch where students can sit, socialize, and study (Figure 62).

²⁸ Conway, M., 1913. A Persian Garden Carpet. *The Burlington Magazine for Connoisseurs*, 23(122), pp.95.

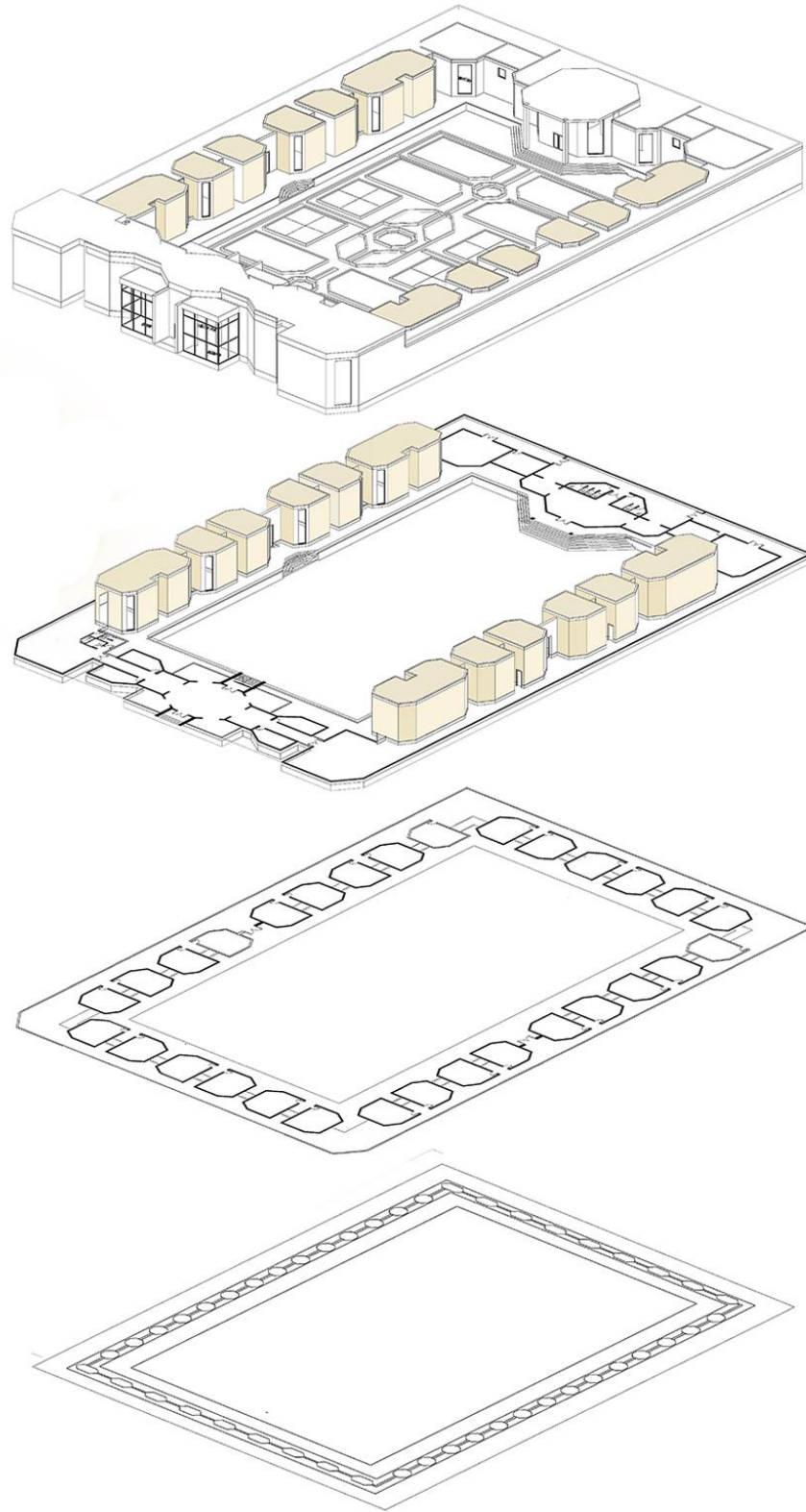


Figure 56. Diagram of forming the enclosure structure based on the pattern of the carpet

The Geometric Structure

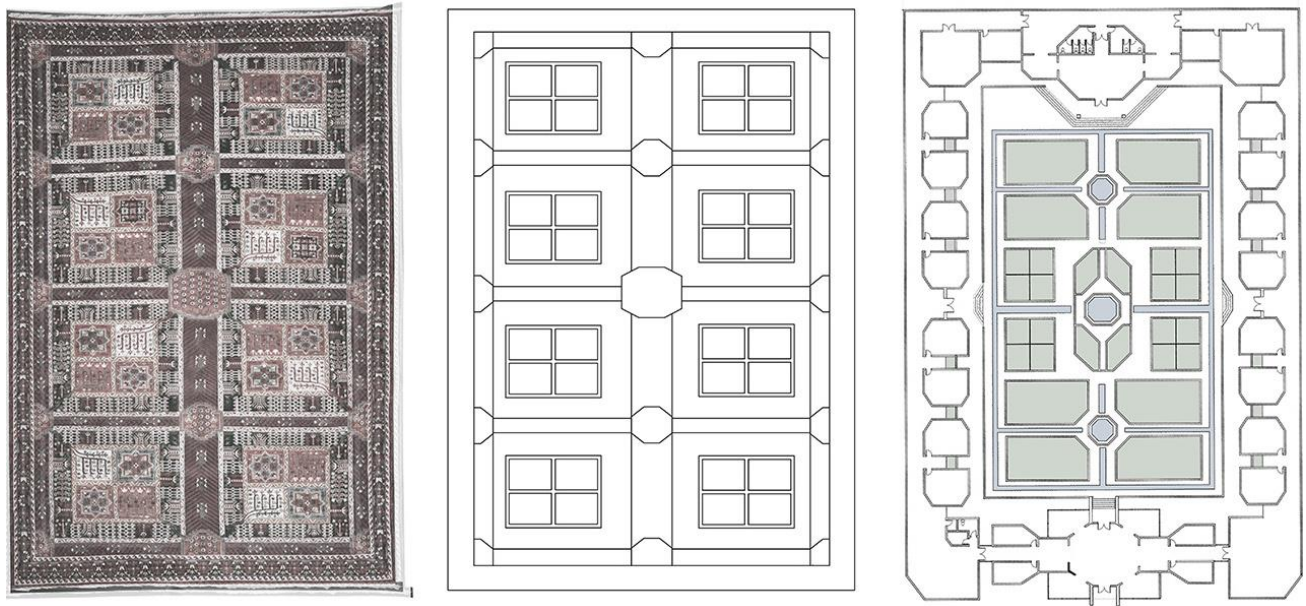


Figure 57. Geometric structure diagram

Since the ancient times, the simplest geometrical shape of the garden has been rectangle or square. The pattern in this carpet shows the schematic representation of a garden plan divided by water channels into numerous plots with trees and flowers. I used this pattern to form the basic structure of the garden plan.

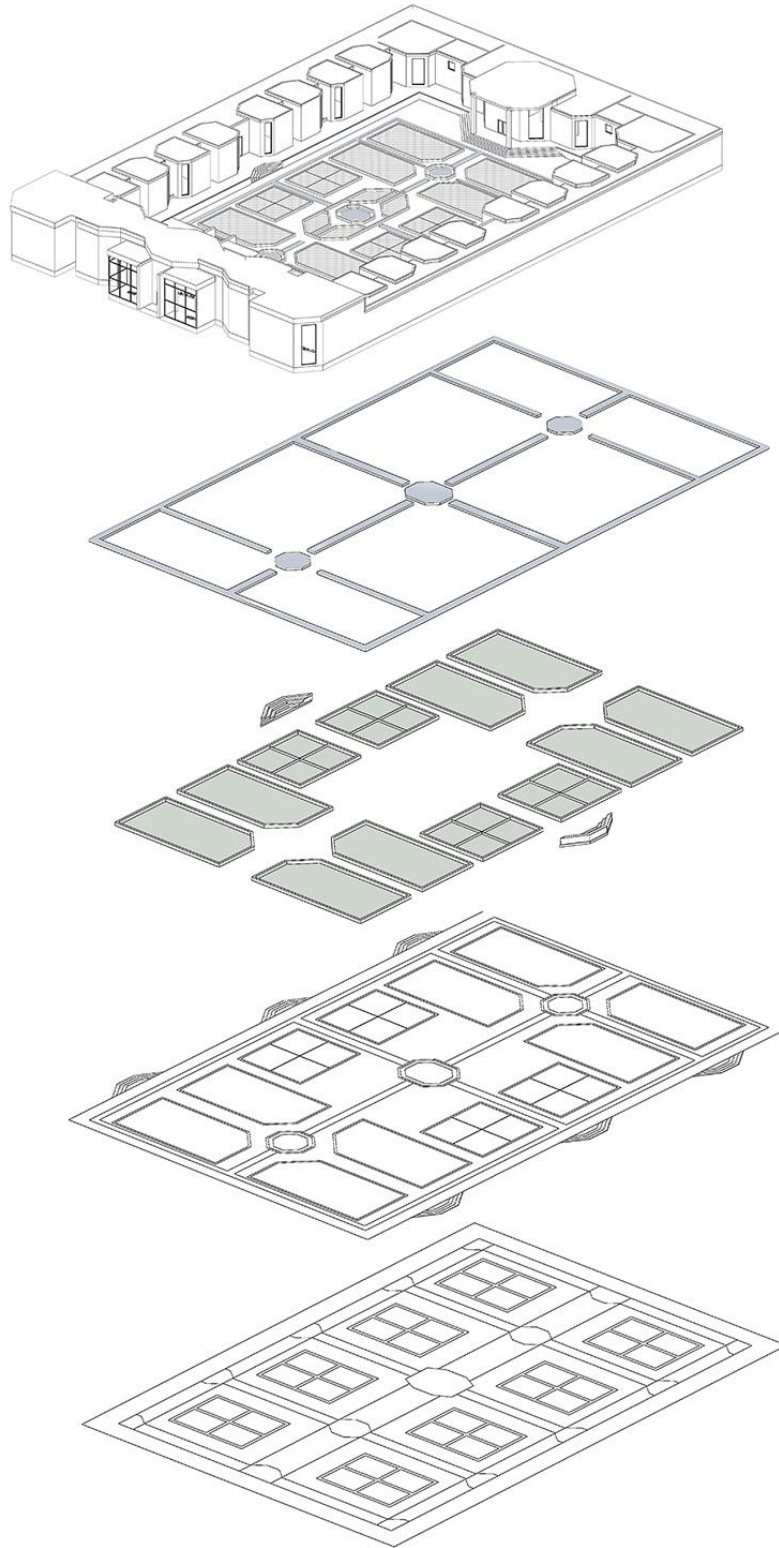


Figure 58. Diagram of forming the geometric structure of the landscape based on the pattern of the carpet



Figure 59. View from the garden looking at the entrance



Figure 60. View from the corridor



Figure 61. View form the entrance looking at the gallery



Figure 62. View of the porch



Figure 63. Section elevation

The height difference between the garden level and the ground floor make a vertical separation between the public garden and the private space of the school.



Figure 64. View of the mosque and its sunken courtyard.

The precedent which inspired me through the development of this project was the Agha Bozorg school-mosque in Kashan from the late 18th century. The vertical separation is used here as well, but the difference is that the classrooms are placed on the lower level around the courtyard, and the public space is on the ground floor. Therefore, people have no access to the courtyard, and they can only view it from the above.

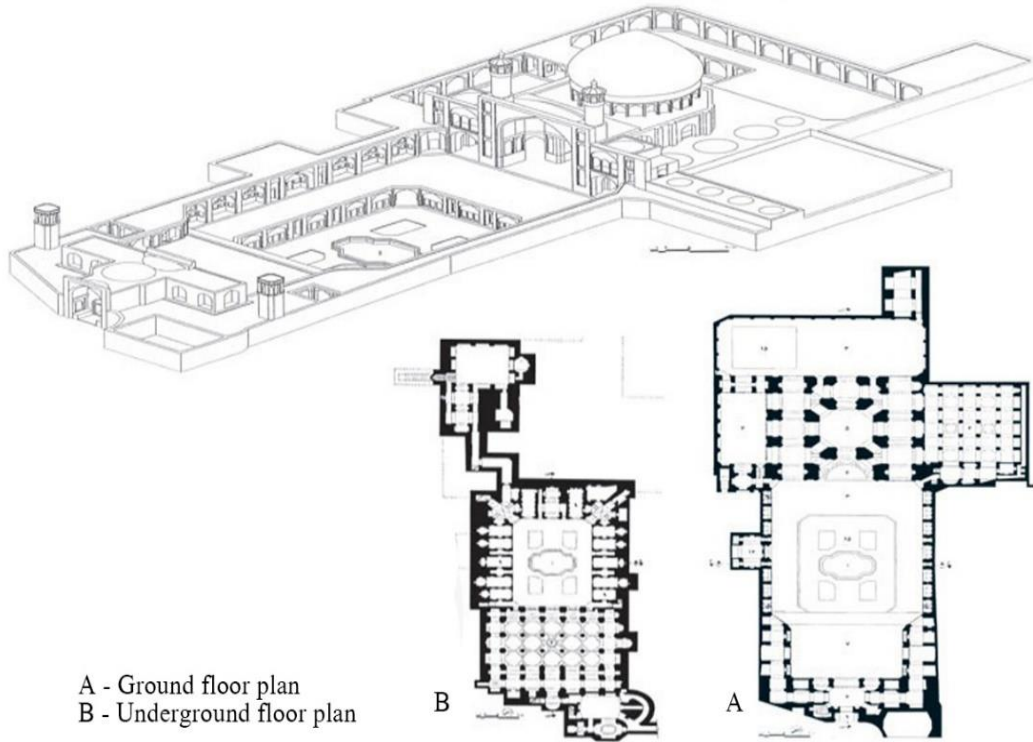
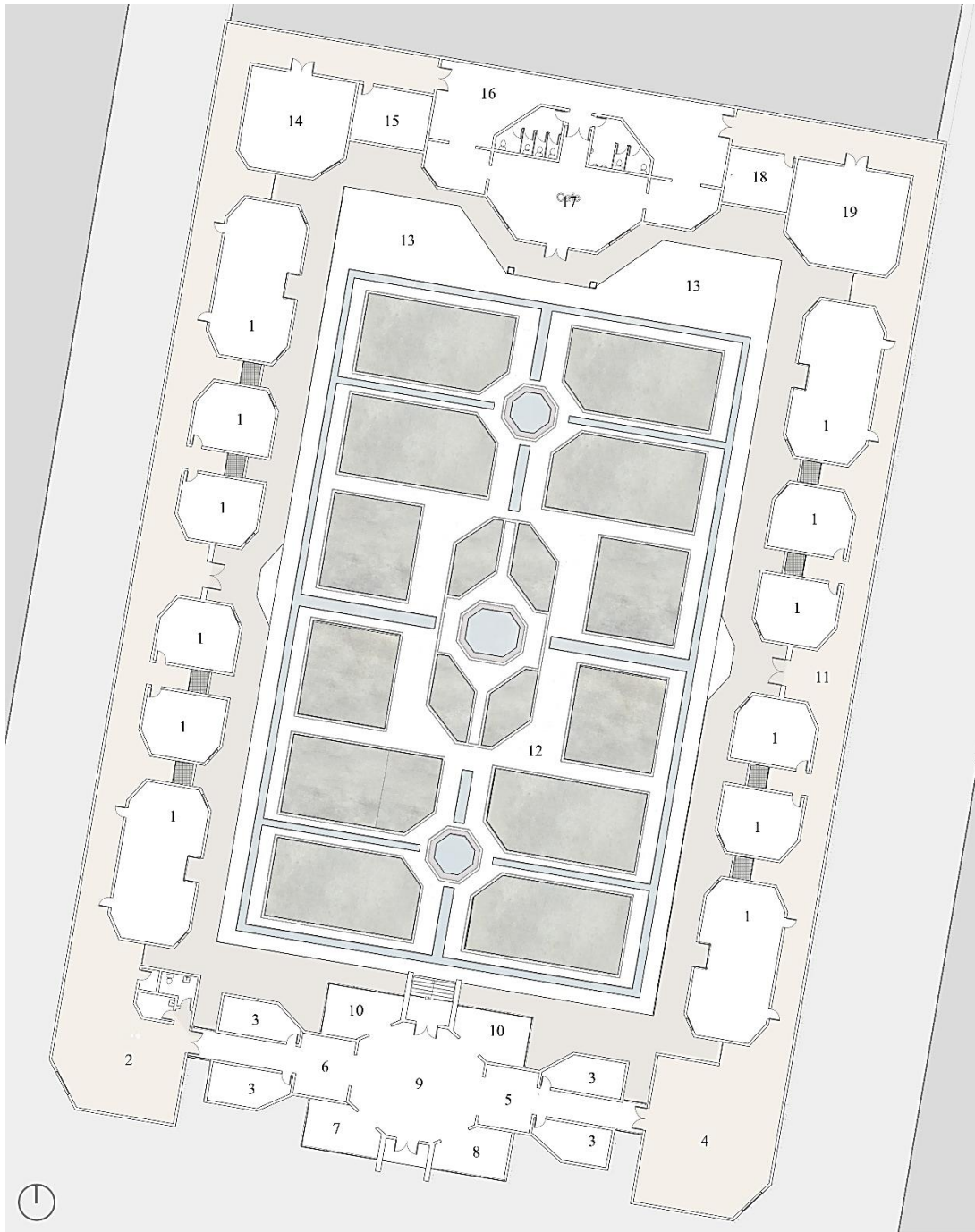
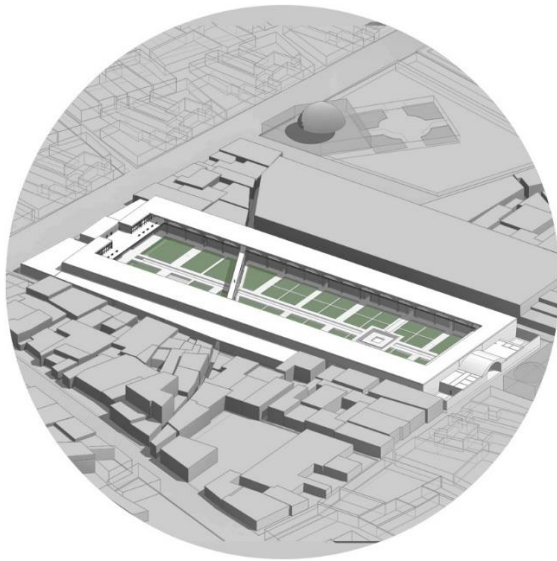


Figure 65. Agha Bozorg mosque isometric view and floor plans



- | | | | |
|--------------------|------------------------|-------------------------|---------------------|
| 1. Class Rooms | 6. Administration Area | 11. Connecting Corridor | 16. Gallery |
| 2. Student Lounge | 7. Security | 12. Public Garden | 17. Cafe |
| 3. Offices | 8. Supply Store | 13. Sitting Area | 18. Mechanical |
| 4. Exhibition Area | 9. Public Hall | 14. Art Workshop | 19. Computer center |
| 5. Reception | 10. Meeting Room | 15. Storage | |

Figure 66. School-garden Floor plan



SHOPPING MALL + GARDEN

4.2.3 Design III: Garden Shopping Mall

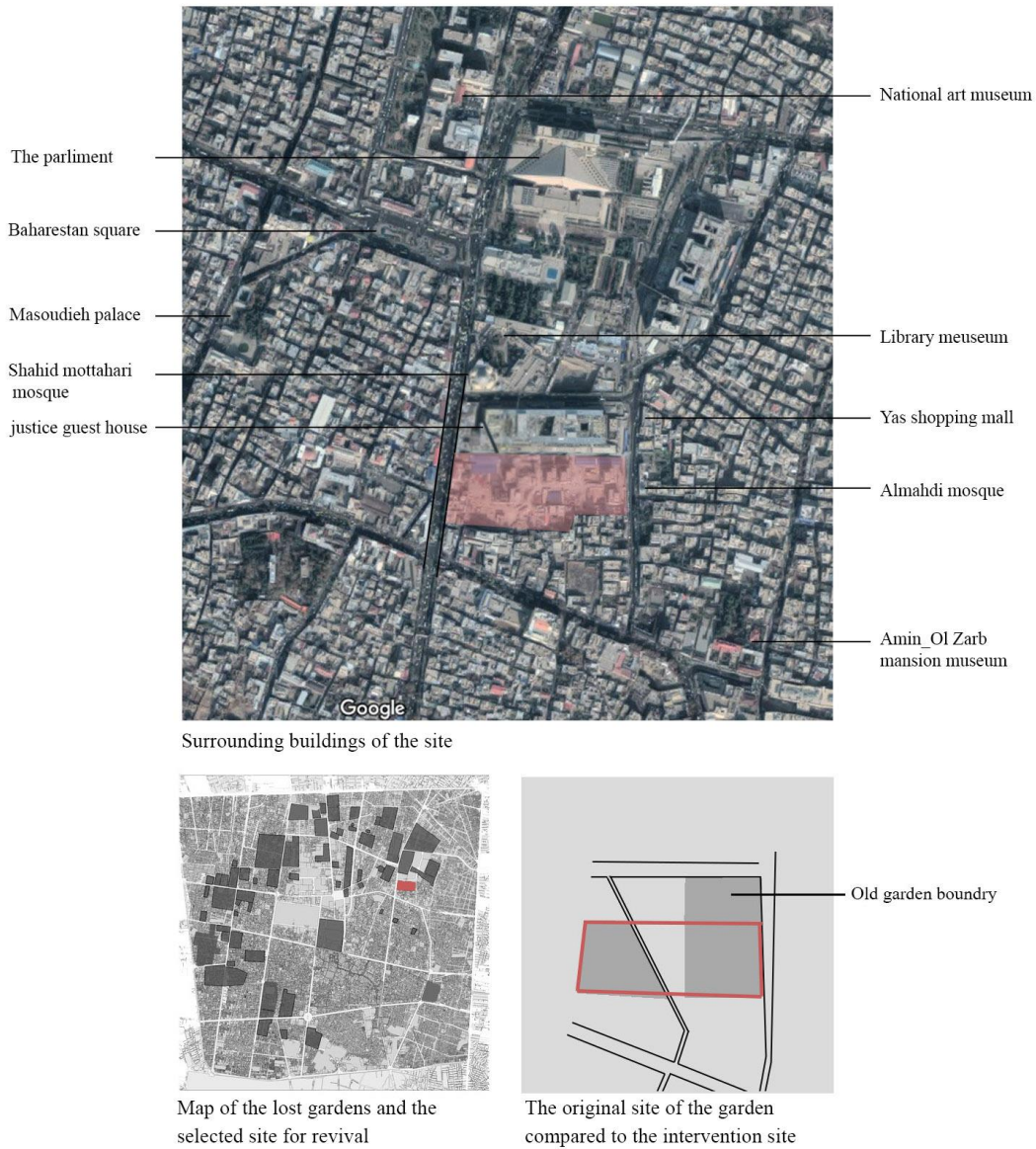


Figure 67 Location of the site (old garden)

In my third design experiment, an enclosed garden plays a part in urban positioning. The site of the project is located in one of the busiest junctions of the city, which provides high accessibility to the garden. There are numbers of significant buildings and historic monuments adjacent to the site such as the parliament building, the national library, the famous public squares, and the garden museums.



Figure 68. Photos of the site. The photos of the site show the old fabric and the storage facilities that no longer have special value.

Naghshe Jahan, Isfahan

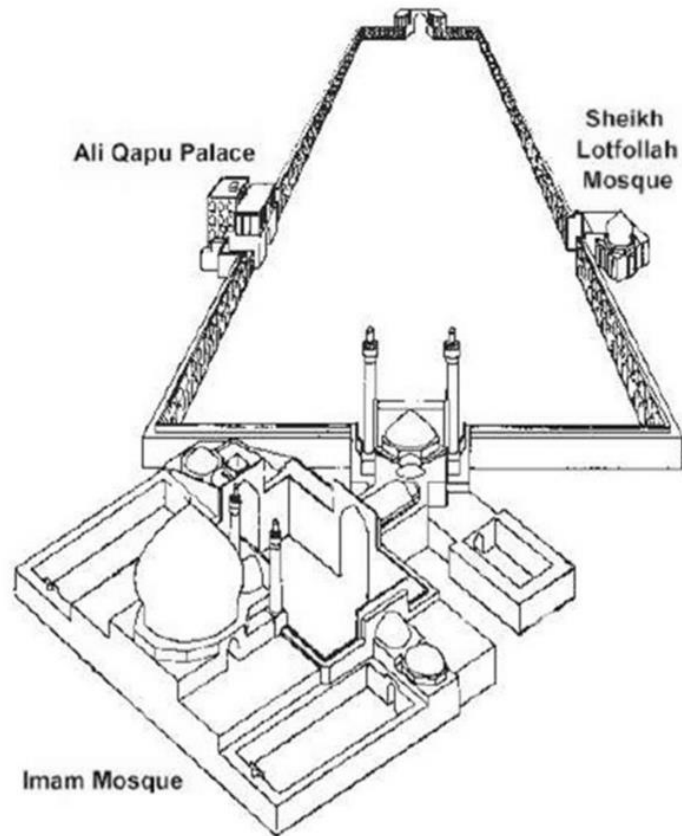


Figure 69. Naghshe jahan square, Isfahan

One of the precedents that I looked into for this project is Naghshe Jahan Square in Isfahan which is the most famous square in Iran built in 1596. This square is designed to showcase the mosques from the Safavid era and connects the public to the Grand Bazaar. The square has a garden inside the complex which is a central meeting space of Isfahan lined with shops and cafes.

The Grand Bazaar

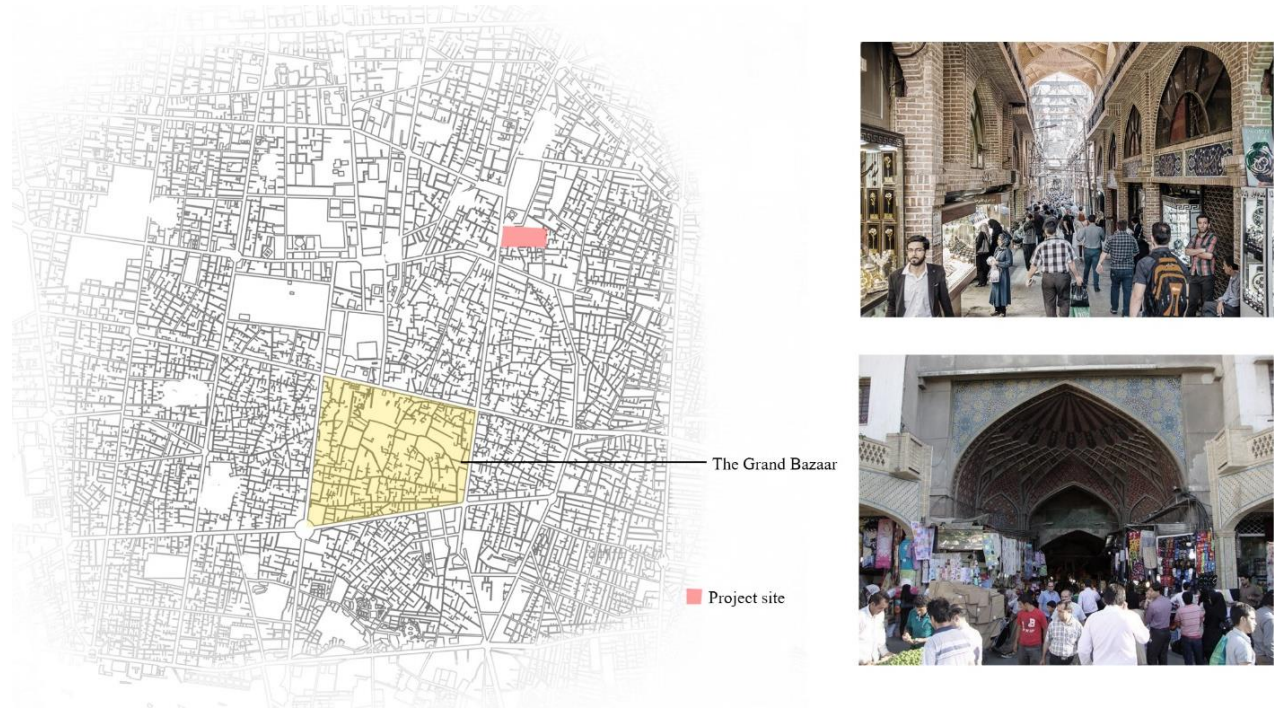
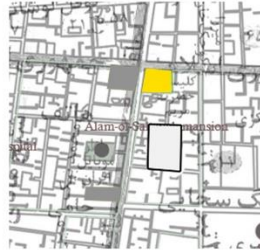
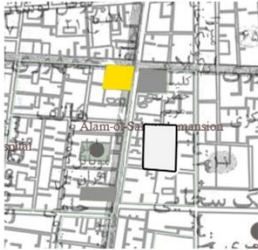


Figure 70. The Grand Bazaar location

The site of this project is close to the bazaar which is the most important public aspect of the pre-modern era. Although its main function is commerce, it is also the main stage for social interactions and meeting points of different sections of the society.²⁹

²⁹ Weiss, Walter M., and E. T. Balic. *The bazaar: Markets and merchants of the Islamic world*. Thames and Hudson, 1998.

Western shopping centers



Alladin mobile market



Charsou mall



Iran mobile center

Figure 71. Location of the gardens that transformed into modern shopping centers

After the 1940s, the western style of shopping malls arrived in Tehran and found its way into the mass culture. There are numbers of modern western style shopping centers that are built over these gardens. Today, due to the lack of public space, streets and shopping malls have turned into the main realm for citizens' social activities.

Bazaar diagram

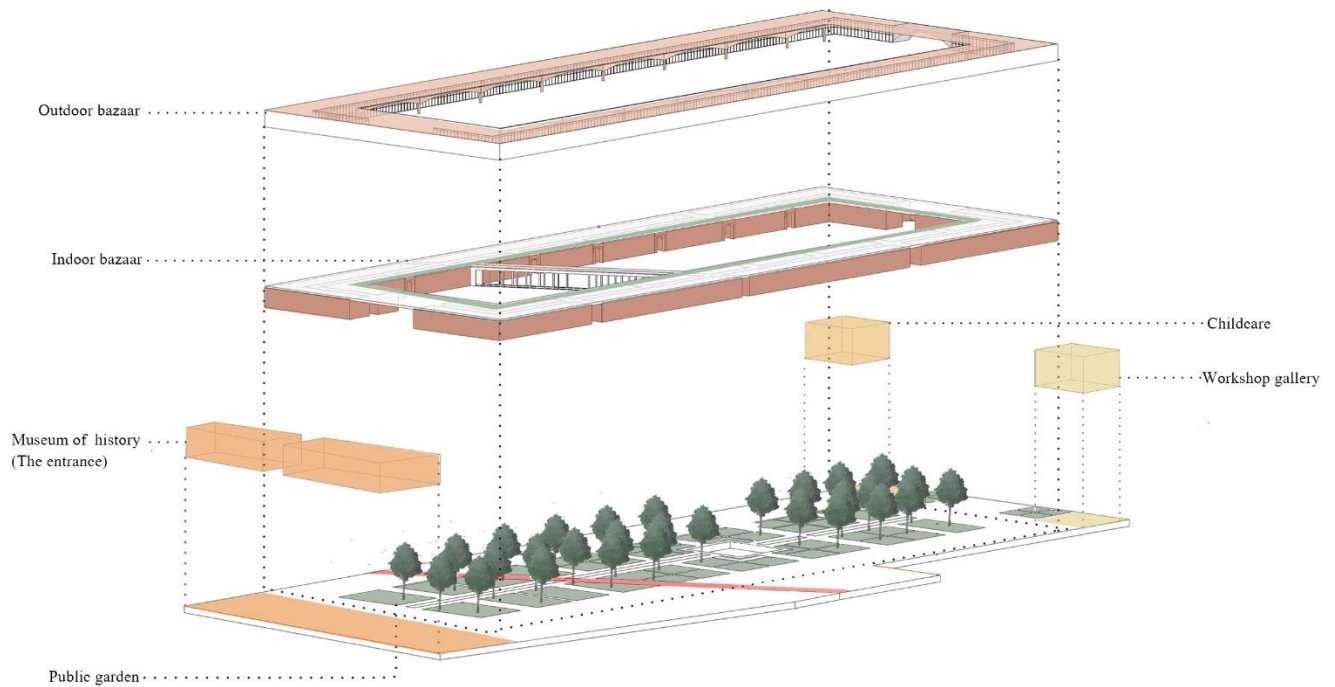


Figure 72. Diagram of the programs of the building

Accordingly, I decided to turn this site into a shopping district as much and bring the garden back in that context as a public space. Moreover, the garden is intended to be the extension of the bazaar and being a part of the bazaar system.

The designed garden is surrounded by shops that are not opening directly to the garden. Though, it is a bazaar that closes in itself whereas on the second floor the bazaar becomes more open to the garden.

The historic passage



Figure 73. Diagram of the urban passages passing through the garden

The most important part of the project was the relationship between the garden and the surrounding institutions: the hostel, shopping centers, and the historic mosques. There used to be a historic passage that went through the site and led to the mosque. Therefore, I decided to keep it and incorporated it in my design as a historical memory which slices the garden diagonally and disrupts the symmetry of the enclosure.

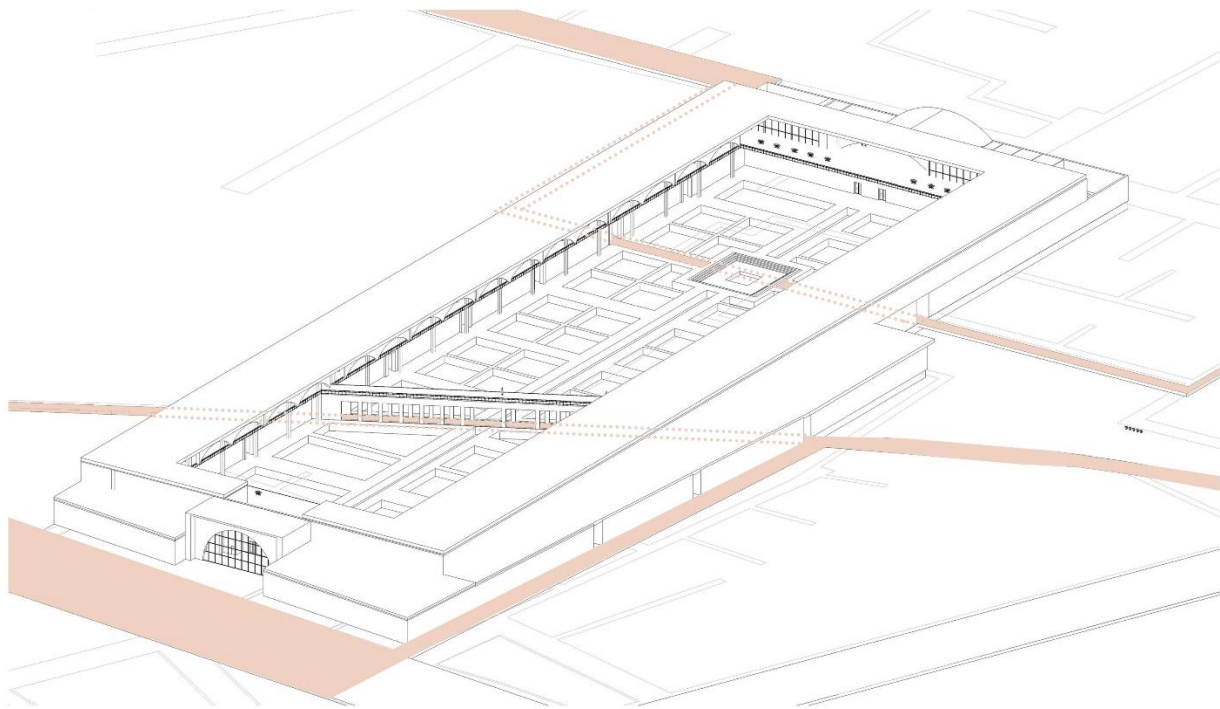


Figure 74. Isometric view of the urban passages

There are multiple entrances from the street, therefore the garden becomes very permeable by becoming a part of a public space network and by connecting the surrounding activities.

Urban connection

Garden + Shopping Mall

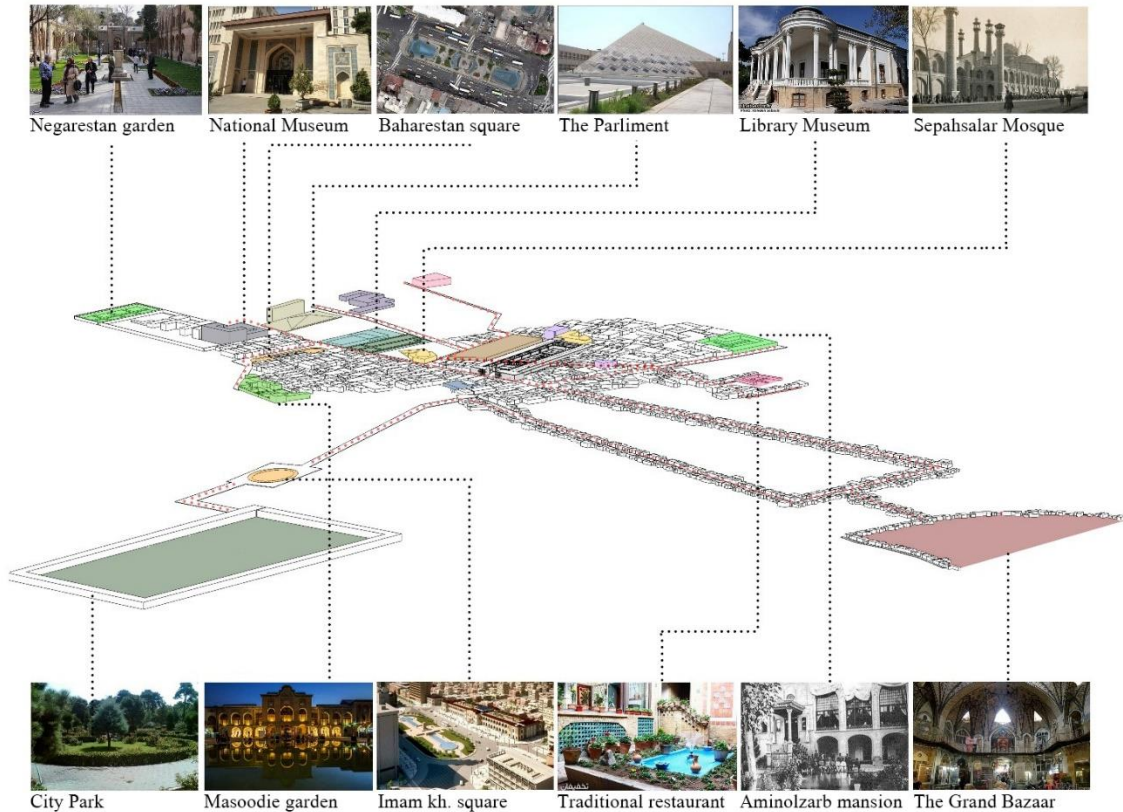


Figure 75. Diagram of the urban connection – The connection of the garden complex with the significant buildings of the area

In addition, the connection to the urban network was the major point of the project. In other words, the connection of the garden to the bazaar, Public Park, government complexes, museums libraries, public squares, and the city park. Therefore, the new building acts as a kind of a nexus point that integrates the spatial fabric and brings the resource in the green space.

Typology

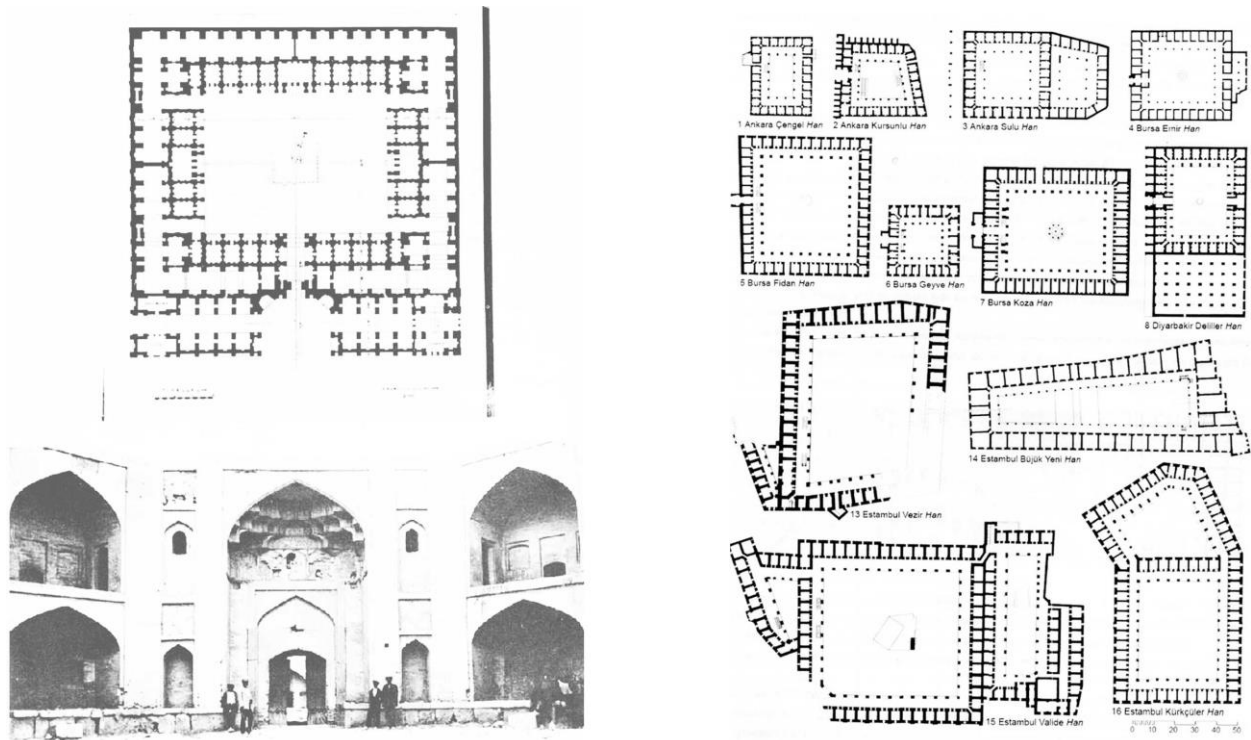


Figure 76. Typology of the bazaar

I applied the linear and spatial quality of the bazaar into the design of the shopping mall. Therefore, the building consists of a main covered street, which acts as the spine of the bazaar, surrounded by shops on both sides. There are several secondary branches that are connected to the main spine, including shops and passageways interspersed with multiple squares.

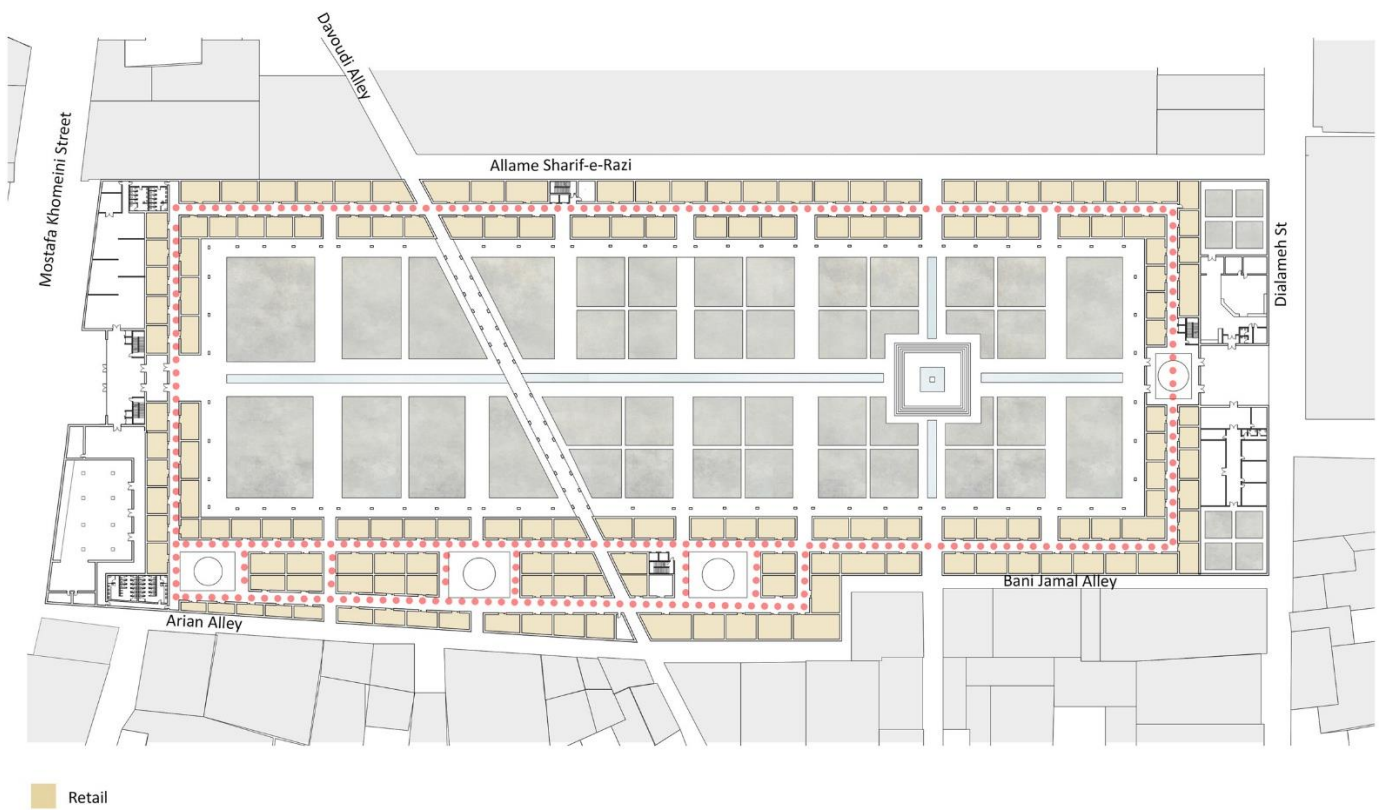


Figure 77. Ground floor plan diagram 1

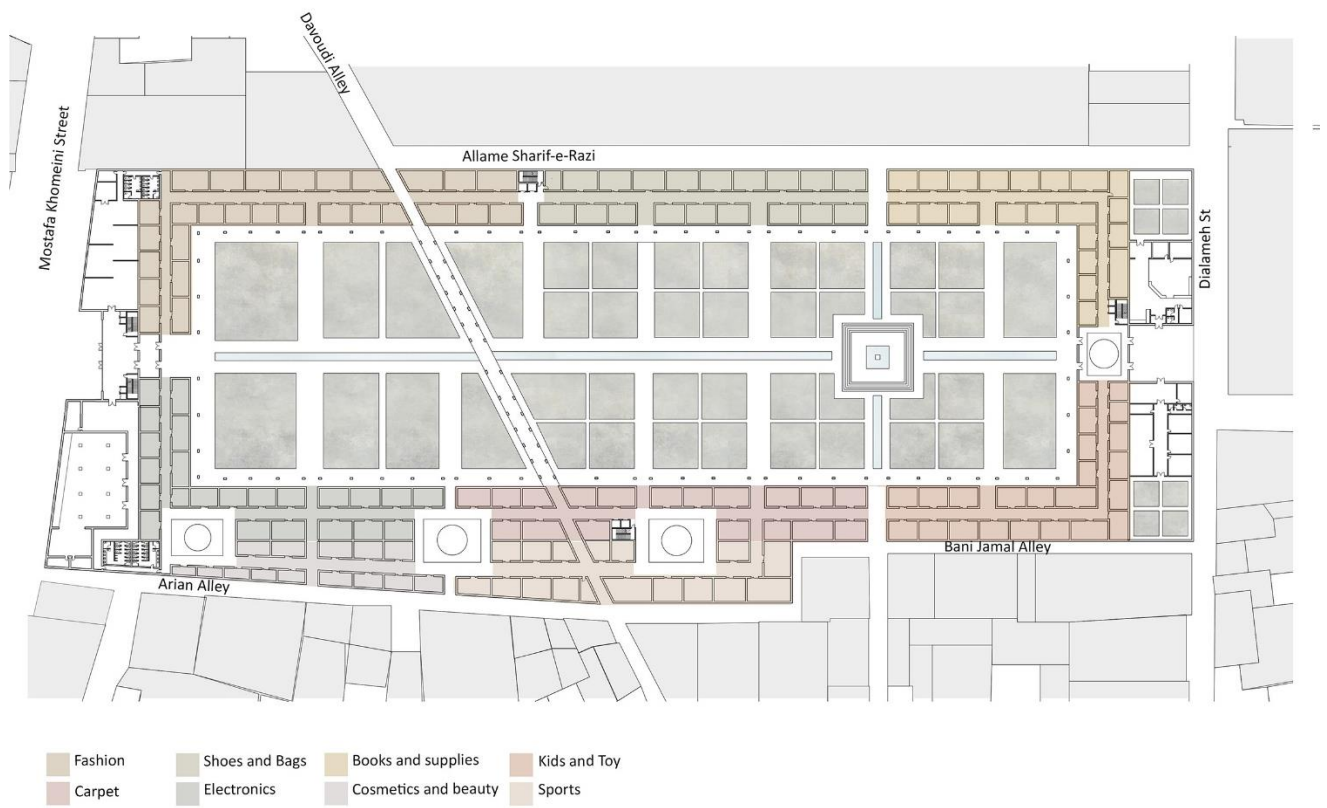


Figure 78. Ground floor plan diagram 2. Different types of retail stores that are divided by the specific type of the stores.

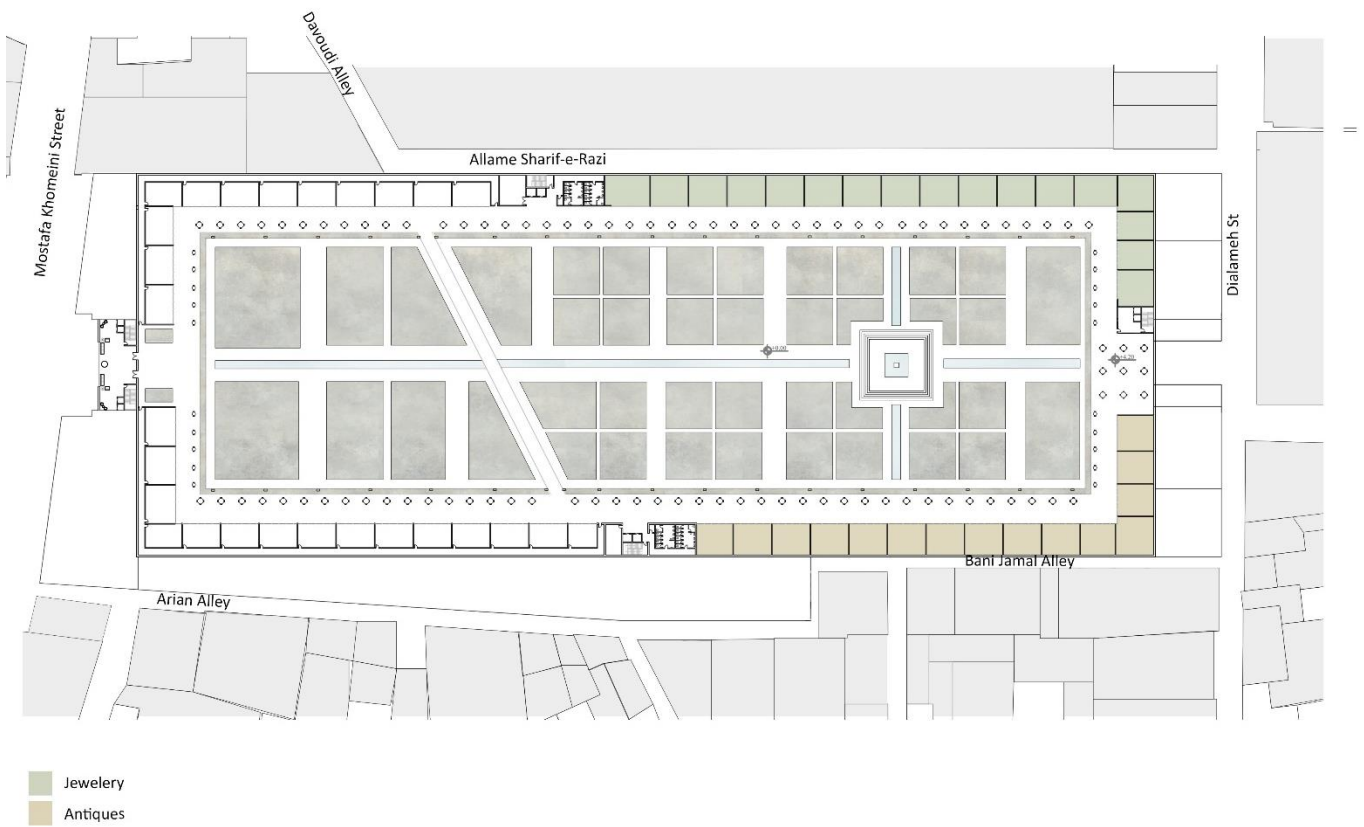


Figure 79. First floor plan diagram 2

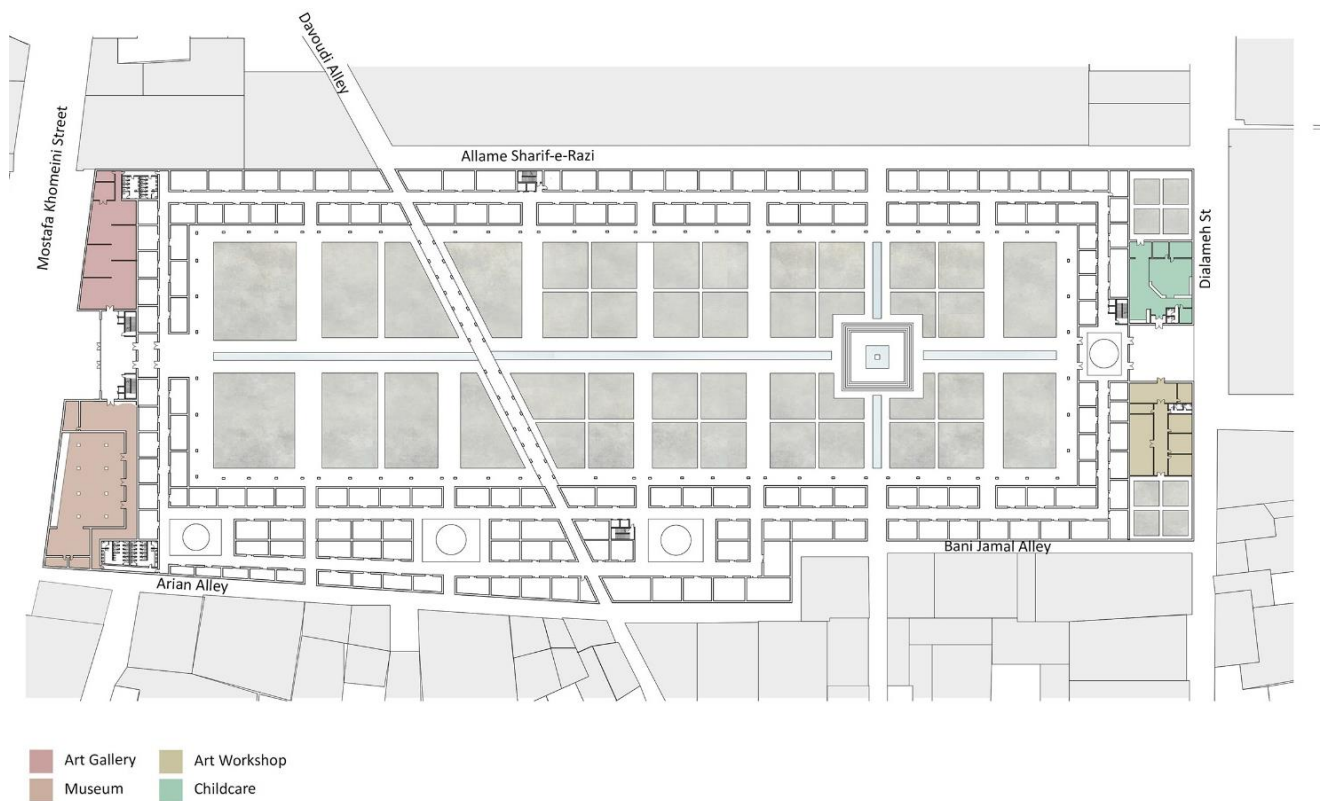


Figure 80. Floor plan diagram 3

Starting at the west, the main entrance, there is a museum where people can learn about the history of Tehran and its gardens. Additionally, on the east side, which is closed to the neighborhood, there is a childcare and an art workshop where children can learn about carpet weaving and other Persian handicrafts. Moreover, children can display their art work in the gallery that is placed next to the history museum.

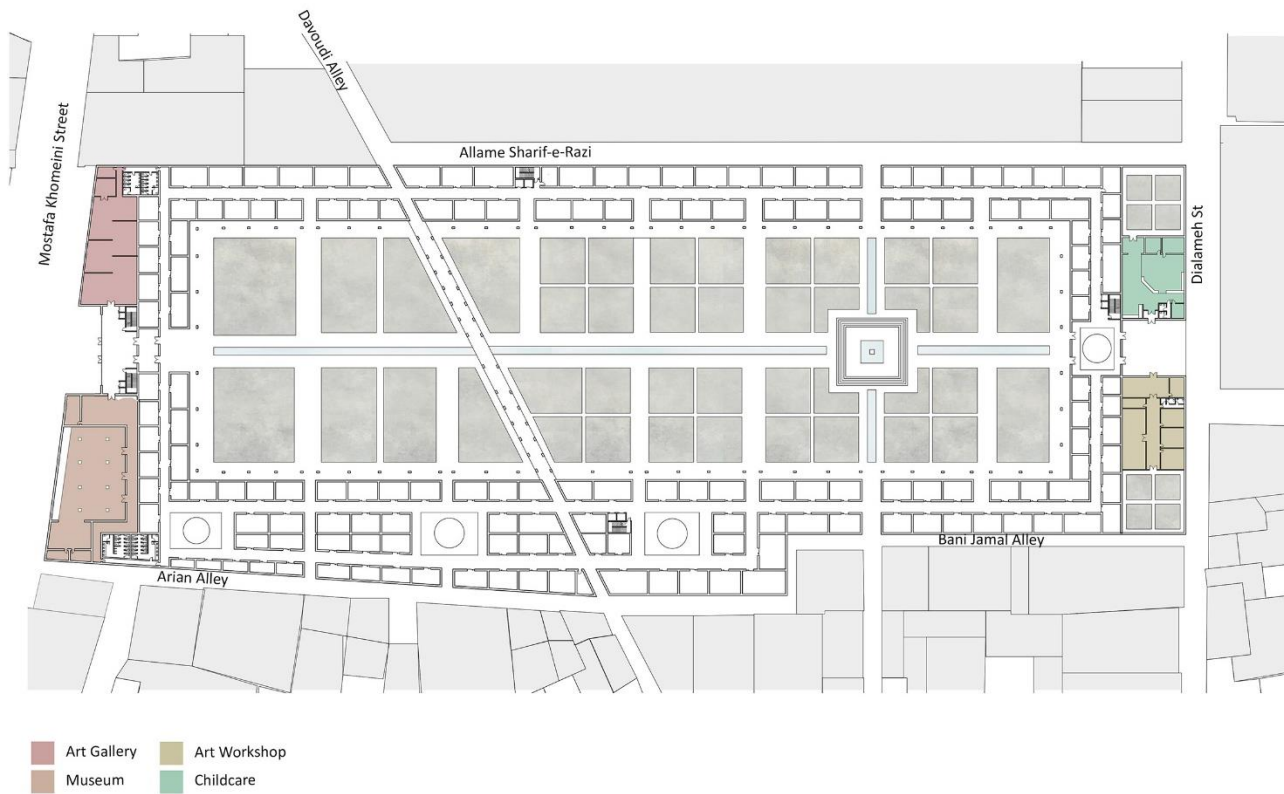


Figure 81. Ground floor plan diagram 4

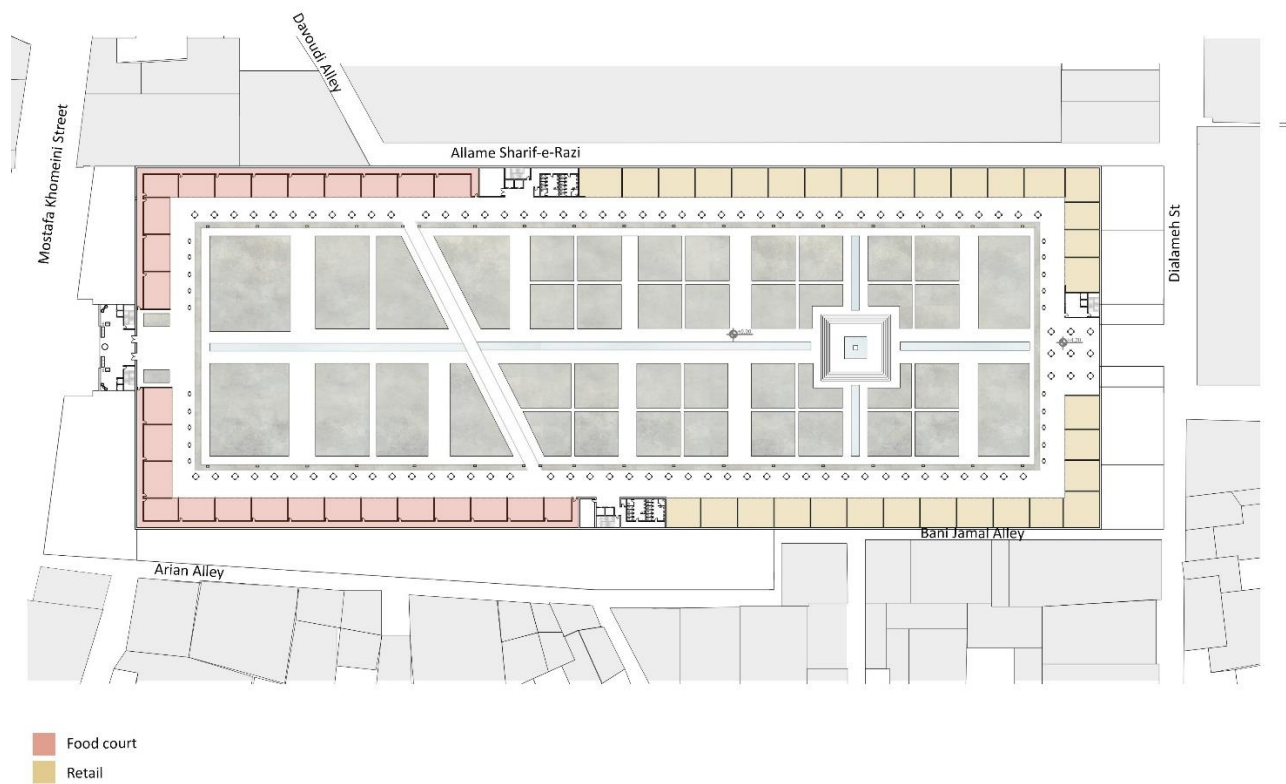


Figure 82. First floor plan diagram 5

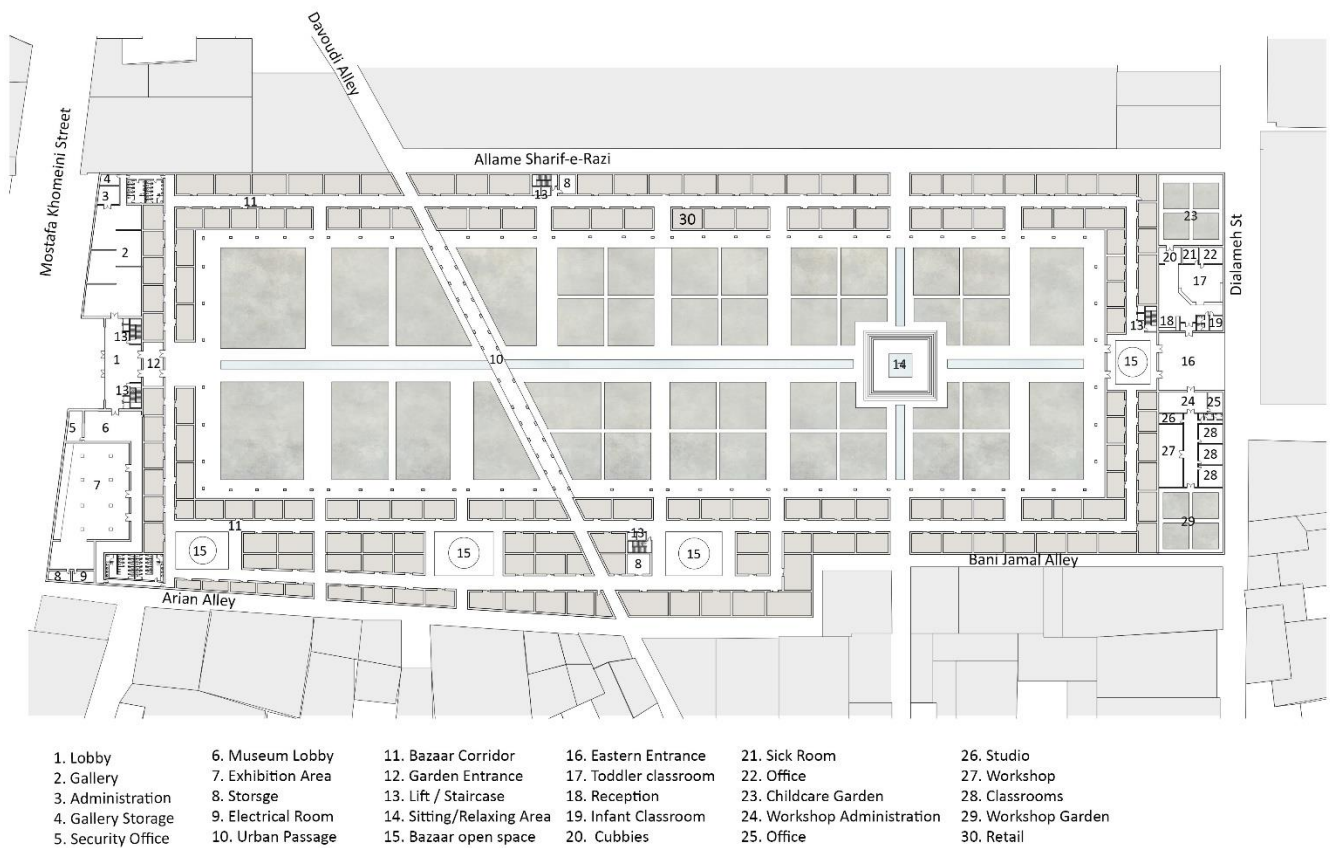


Figure 83. Ground floor plan diagram 6

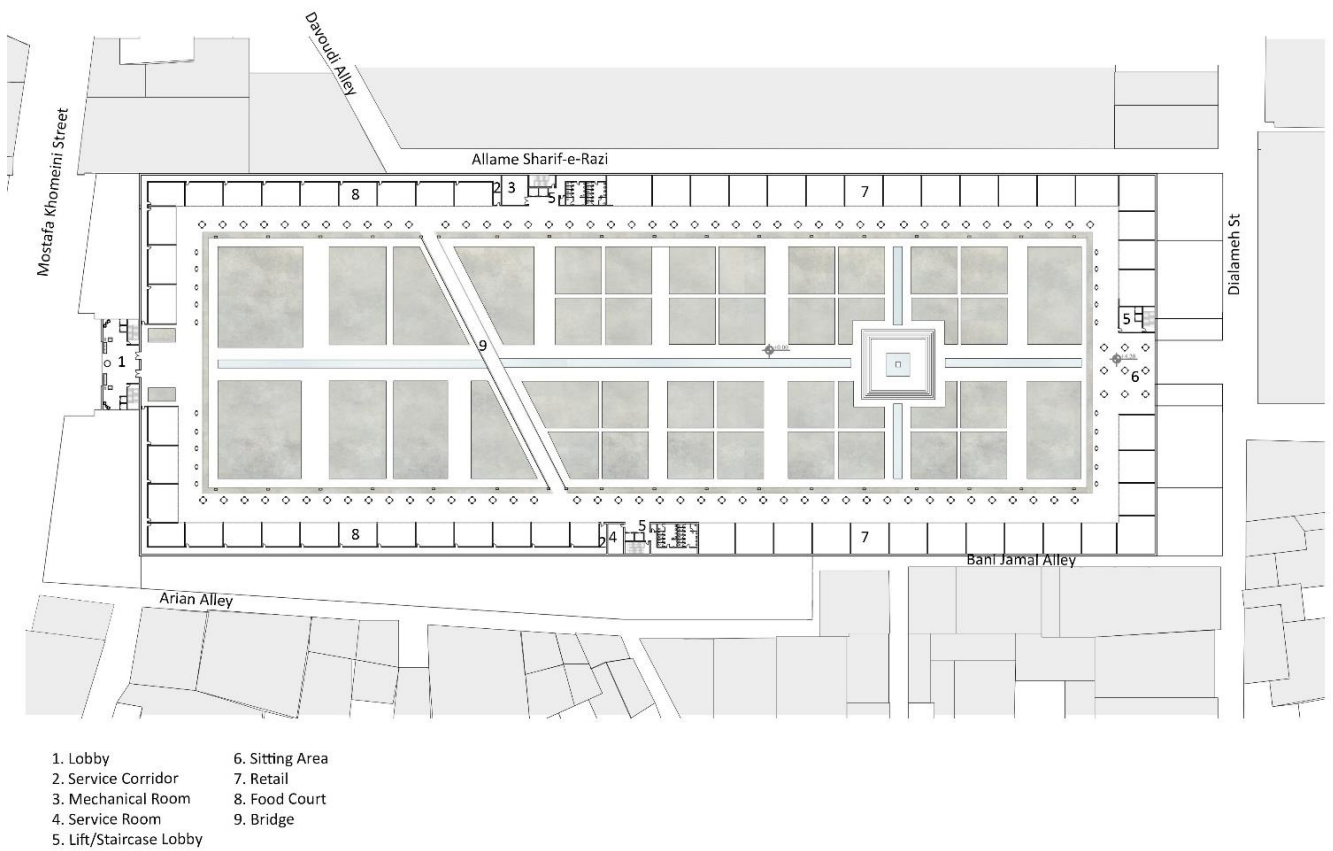


Figure 84. First floor plan diagram 7

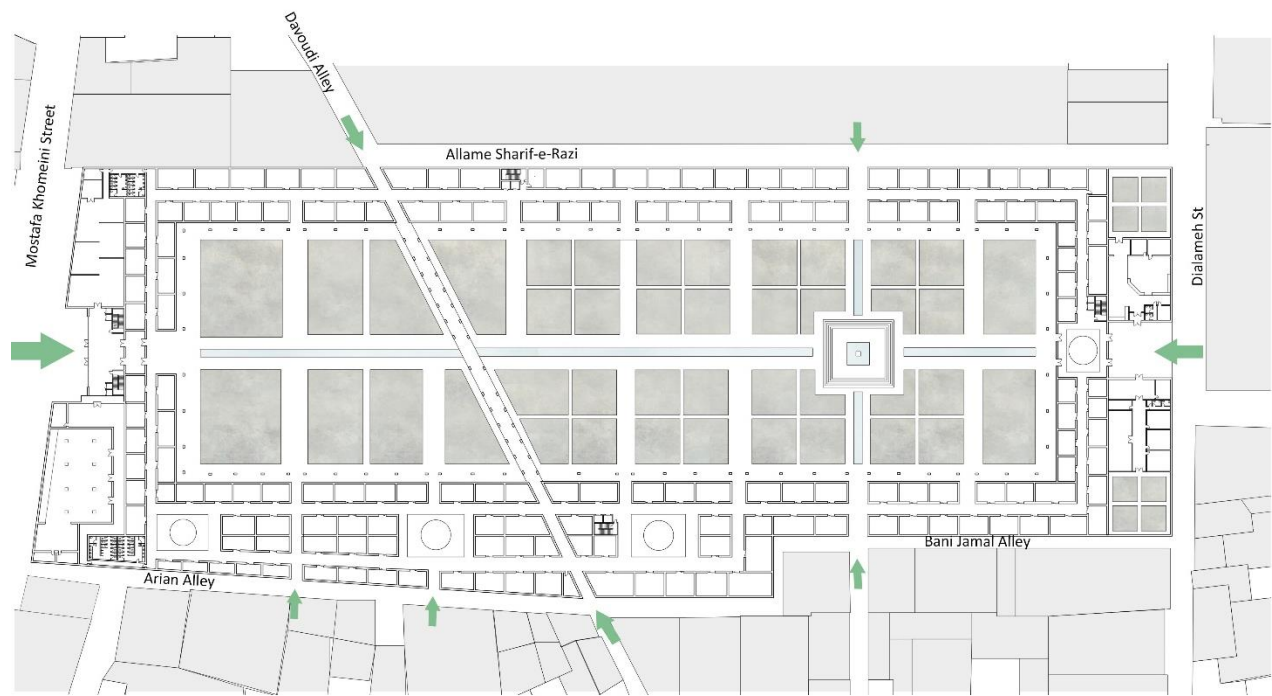


Figure 85. Ground floor diagram 8

Planting System

The traditional planting system is applied in this design. In Persian gardens, the edge of the main corridors are lined with Long-living trees such as cypress which in Persia is a symbol of “eternity”. Each square divides into numbers of smaller squares where on the edge of them they planted trees with average lifespan such as plane trees. In the middle of the squares, they plant covering plants such as grass, clover, and alfalfa which help to provide solar lighting for all the plants. This planting system causes the overall shape of the garden to be preserved in terms of visual and spatial quality during seasonal changes.



Figure 86. Ground floor planting diagram



Figure 87. Section elevation

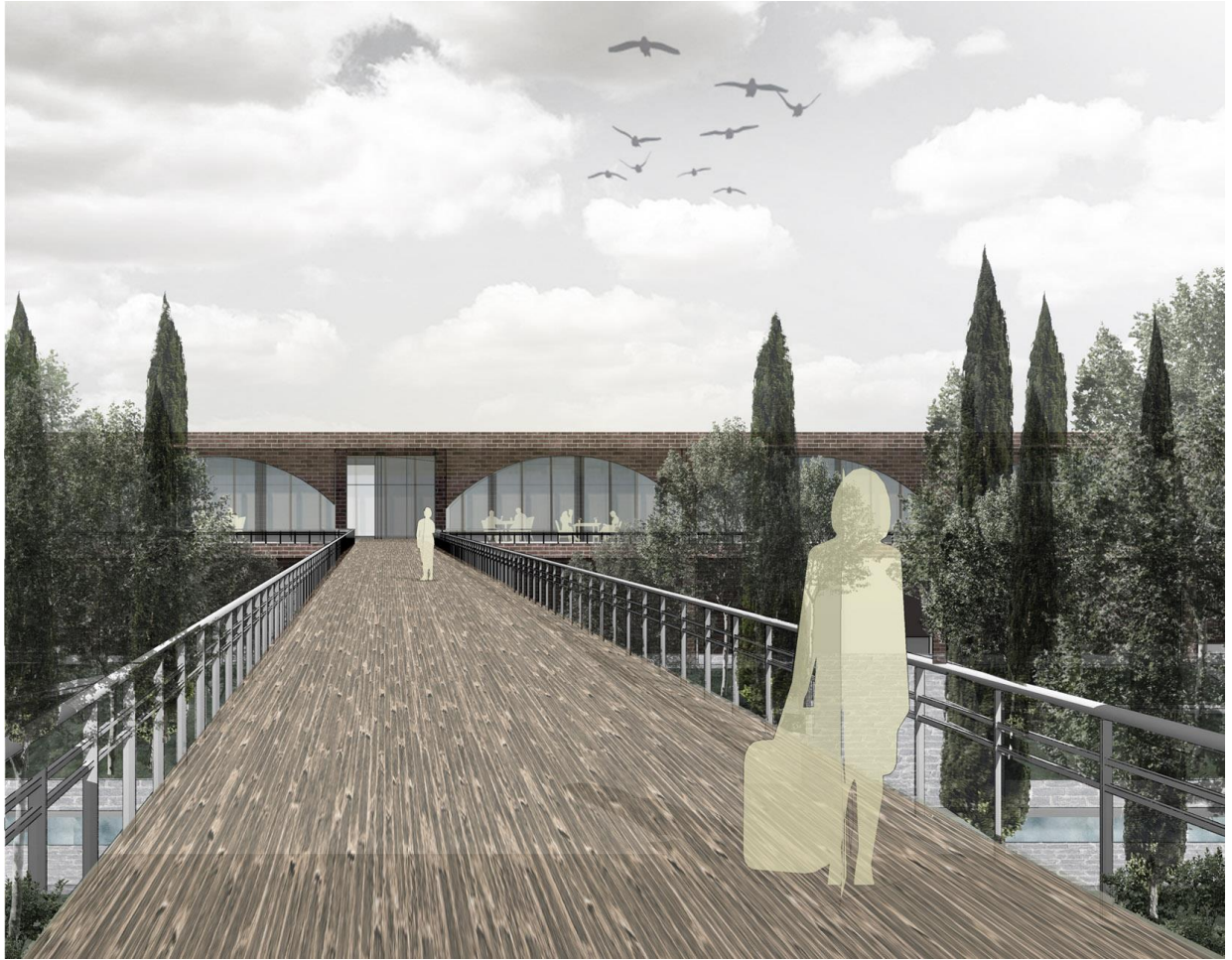


Figure 88. View from the bridge



Figure 89. View from the main corridor



Figure 90. View from the first floor balcony

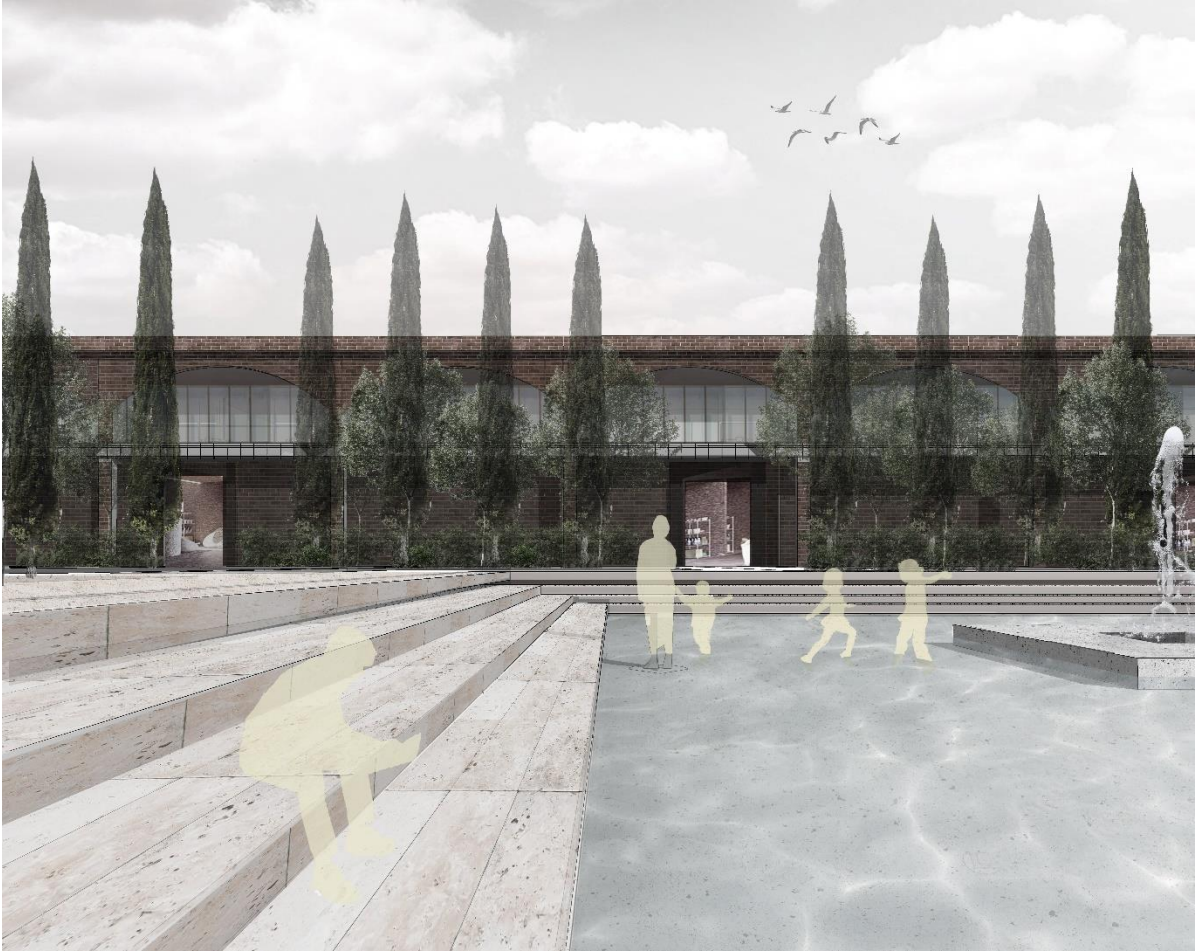


Figure 91. View from the central gathering area

5 CONCLUSION

Historical gardens are not celebrated as an important part of the country's heritage in Iran due to political and economic challenges. The issue of garden conservation is widely neglected, and up to now there has been no record of its own history.

Tehran was known as a city of gardens as it held many gardens and plane trees. However, most of these gardens have been disappeared due to the new construction and development of the city of Tehran. Most recent one was an old garden which was about 75,000 square meter that was replaced by a massive commercial complex.

In my view, it seems like people in Tehran, especially the young generation, are not aware of what is happening to these gardens and do not appreciate these historic artifacts as cultural memory. It seems like these beautiful gardens are getting forgotten.

Consequently, considering the fact that they are disappearing, I find it interesting to start looking at Persian gardens, to see how the experience, the whole structure, and symbolic nature can be translated into 21st century. I started this journey by looking at the private gardens that were designed to be experienced by royalties in the past and find answers to this question: how we can engage ancient techniques and produce a contemporary version of the Persian garden? The gardens could be something more of a public space that is not limited to the elite and noble people but a place that serves all people.

This thesis is aimed to make these gardens part of the public awareness again and integrate them in the contemporary landscape of Tehran. I want to sort of remind people of their history and engage young generation with their culture and their past.

In addition, I believe it is important to add contemporary and modern elements into the design of the gardens. Thus, the new designed gardens can have different programs and could be a place for profit as well. Therefore, these gardens could generate the income while being a great place for citizens to practice mental health, socialize and learn about the history.

The different programmatic material was used in each design. Thus, the garden becomes a kind of common theme and it becomes a sort of signifier of public space and public amenity.

The main idea in my thesis is democratization of garden spaces. For instance, having a café experience while sitting and enjoying the view of the garden. Therefore, it is not just a purely static experience, though, it is an experience enriched by the presence of a whole range of public activities; Children playing, people having a conversation, shopping and etc.

My thesis specifically entails three different projects highlighting three contemporary functionalities integrated with the idea of the garden: a parking lot, an elementary school, and a shopping promenade (bazaar). These gardens are places where you can be out with the sound of water sound of trees and the sun. Thus, people as citizens now have access to the same experience as the former aristocrats and the gardens will serve as a communal places of identity, memory, and belonging.

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