

In Quest of Today's Life in Traditional Gardens

An Analysis of Molla Khalila Park Design in Qazvin*

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Abstract | The traditional gardens of Qazvin are generally fruitful that used to be located around Qazvin in the past. With more than a thousand years old and an area of two and a half hectares, these gardens have surrounded Qazvin from the east, south and west directions. These collections of gardens have been a valuable legacy for centuries, defining the boundaries of Qazvin and playing a vital identity role for this city by having unique technical, geographical, hydrological, cultural and identity features.

The excessive expansion of Qazvin in recent decades has damaged the identity and territory of its traditional gardens and threatened and destroyed its traditional gardens. Factors such as development, population growth, increased land prices, socio-economic changes, landfill construction, and a poor urban management approach have led to these damages. Lack of performance and function consistent with people's lives and lack of a comprehensive definition for these urban pieces have destroyed, dried up, disrupted and changed the function of this vital green infrastructure in Qazvin.

Molla Khalila park located in the traditional gardens of Qazvin is one of Qazvin Municipality's efforts to restore the traditional gardens of this city and prepare them for citizens and supply their modern living needs. The park was inaugurated in 2015 and is currently used by Qazvin citizens. This pilot study is an attempt to question the consistency of the design of the park to revive Qazvin gardens, with the concept and role of the traditional gardens of this city. It also analyzes the success of the project in comparison with the traditional structures and patterns of the traditional gardens of Qazvin.

Keywords | Traditional gardens, Regeneration, Molla Khalila park, Qazvin.

Introduction | The traditional gardens of Qazvin are a valuable legacy of this city's ancestors that represent the role of human-nature interaction in shaping

its indigenous historical landscape. These valuable collections are an example of traditional agriculture that has been preserved so far and has historically played an important role in this city's economy. Its way of dealing with water scarcity and water management, resistance

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to the environment and climate, and its important trees such as Pistachios, almonds, walnuts and grapes and even its products exportation are all unique (Kermanshahani, 2017). Its history, biological, and ecological identity needs reviving this valuable collection. In addition to their environmental and flood control function, these gardens represent a cultural landscape that has for centuries demonstrated Qazvin people's interaction with their geographical, historical, and natural context. With the development of the city and changes in its citizens' lifestyle, economy and livelihoods on the one hand, and urban planning based on modern urban planning guidelines and communication networks, these gardens gradually lost their important role in the public life of this city. Although the gardens have attracted the attention of citizens in various seasons, especially during Nowruz, they have faced various threats in recent decades and lost a considerable part of its area, especially in the northern part of the city. In recent years, their revival and utilization, as great potentials for the city, have attracted the attention of Qazvin Municipality.

Molla Khalila garden, as an important manifestation of this effort, is located in Qazvin, Holy Defense Square (Hamedan Junction). It is the first and largest garden with an area of 6 hectares constructed in the south of this city to maintain the traditional gardens and expand the urban green space and was operated in October 2015. Molla Khalila garden is the second largest garden of Qazvin, located at the entrance to the city.

This study aims to compare the success of Molla Khalila park in coordinating and revitalizing the historical landscape, structure, traditions and structural patterns of the traditional gardens of Qazvin. To this aim, after describing the infrastructural function of gardens and their traditional patterns and structures that are the product of classification, analysis of library studies and field observations in this area, this article analyzes and compares the strategies and measures to determine the rate of success in revitalizing and restoring the gardens and their concordance with the historical identity and cultural landscape of traditional gardens.

Traditional gardens, a cultural landscape

The traditional gardens of Qazvin are a complex of gardens located in the east, west, and south of Qazvin. Although they have surrounded the city (Fig. 1), the city's expansion to the north has destroyed the northern gardens and dried up the gardens along the road in the east of the city. The gardens have surrounded the city. These gardens have unique characteristics making them different from other gardens throughout history (Tables 1 and 2) (Avars, 2006; Akhavadegan, 2001; Dizani, 2017).

Qazvin Gardens are irrigated by five seasonal and

flood rivers. The rivers carry water for agricultural and horticultural operations, although the flooding of rivers is a threat to the city. The gardens have surrounded the city like a ring and water is used to irrigate the rivers so that its alluvial soil is absorbed, and aquifers are enriched. They are like a green belt for the city and respiratory lungs, playing a significant role in lowering the temperature of the area. Above all, they have shaped the culture and economy of the city, representing the long-standing human-nature interaction and the creation of systems and traditions that interact between man and nature in the city. The revitalization of Qazvin gardens should not take place into parks without identity, regardless of these traditions and the cultural landscape of the traditional gardens (Kermanshahani, 2017; Homayouni, 2016)

The traditional gardens have been around for thousands of years. Therefore, there is a reflection on these gardens in historical sources, including "Sourat al-Arz" by Ibn Huqal (943 to 970 A.D.), "Masalek va Mamalek" by Ibrahim Estrakhri (4th century A.H.), "Asar al-Bilad" by Zakariya Ibn Muhammad Ibn Mahmud Qazvini (7th century A.H.) and "Safarnameh" by Naser Khosrow Ghobadiyani (438 A.H.). Each of these books describes these gardens in a different way. However, they all emphasize a single point: The existence of a green fruitful garden with one time of irrigation per year in the dry and variable climate of Qazvin, which lacks a permanent river.

One of the most famous historical references in this regard is Naser Khosrow' "Safarnameh", which describes the gardens in 438 AH in this way: "I found Qazvin a nice city, but it was suffering from water scarcity. It contained a lot of gardens, no walls, no thorns and no obstacles blocking entry into the gardens" (Sahrakaran, 2016; Rezaei Qal'e, 2014).



Fig. 1. Qazvin in the sixth century Based on "Asar al-Bilad". Source: Golriz, 2002, 46.

Table 1. Characteristics of Qazvin gardens. Source: authors.

Infrastructure role of gardens	Flood control, groundwater reinforcement, soil fertility increase, dust control, creating mild air, air purification
Gardens' structure	Interconnected, without doors and walls, bordered with a hill
Planting pattern and order	Mixed and disorderly planting of several species in a garden
Pattern and order of water and irrigation	Water division by scrolls, irrigation using flooding irrigation, furrow irrigation, cycling irrigation, permanent irrigation, and drip irrigation
Different components and spaces	Well room, "Ale"
Rituals and ceremonies	Panjah Bedar

Table 2. Special components of traditional gardens. Source: authors.

Planting design and plan	The planting pattern in the traditional gardens is mixed and disorderly, mostly containing pistachio, almond, apricot, and other trees, and grape plants grown on the floor. Propagation of fruit trees in traditional gardens is done through seeds, so the fruit trees in traditional gardens are different from one another and vary widely in yield, fruit quality, tree size, spring cold resistance and resistance to pests and diseases.	
Water and irrigation resources	Garden water resources can be divided into two main groups: surface water resources and groundwater resources. Surface resources mainly include rivers and the irrigation network of Taleghan, while underground resources include deep wells. Various methods are used for irrigation of gardens in Qazvin Province, including flooding irrigation, furrow irrigation, cycling irrigation, permanent irrigation, and drip irrigation	
Elements of the traditional gardens of Qazvin	Physical	Well rooms and borders with furrows, the irrigation system of the gardens, "Ale"s, etc
	Non-Physical (customs)	Conventional customs in garden segmentation: person, piece, location, block, Boneh (rural cooperation)
		Conventional irrigation customs: hangam, toice water, three times water, khosh-ab, no water Conventional ownership customs: Specific, kromi, master-farmer, and mowqoufi (endowment)
Borders	Qazvin's gardens have never had walls, and parts of any garden were separated with very long borders (half of the human height or taller). It is easy to pass through them. Moreover, they accommodate winter and spring floods running through the northern mountains of the city one or three times a year, not only preventing the flood damage but also irrigating the gardens and adding to the groundwater table	
Well rooms	The good rooms were created next to the water wells used for drinking and cleaning and formerly alongside one or more mulberry or elm trees had been planted for public use.	
Streams	Irrigation streams branching from the main river, as angled streams approximately one-meter-wide, radially go away from the city and form the backbone of the main irrigation.	

Infrastructural role of traditional gardens

Qazvin is located in the Alborz Mountains and may thus be threatened by floods. These gardens prevent the damages of floods and reinforce groundwater by absorbing the water of floods and adding them to groundwater. In addition, sedimentary materials that carry floods from the base of the mountains increase the fertility of gardens. By surrounding Qazvin, the gardens prevent the dust, speed, and dryness of the wind (warm desert wind) and turn it into a gentle breeze for the city. They also reduce the speed of cold winds during cold seasons and make it a mild wind for the city. They are also very effective in refining the air (Dizani, 2017).

• Qazvin gardens' structure

Qazvin's traditional gardens are all interconnected, with no doors and walls. Their boundary is determined by a hill with a height of half the size of a human body or sometimes more. It is easy to pass through them. Moreover, they accommodate winter and spring floods running through the northern mountains of the city one or three times a year, not only preventing the flood damage, but also irrigating the gardens and adding to groundwater table (Avars, 2006; Golriz, 2002).

• Pattern and order of planting

The planting pattern in traditional gardens is mixed and disorderly (Fig. 2) so that pistachio, almond, apricot, and other trees without any particular order are placed in a garden and grape plants are grown in the floor. Propagation of fruit trees in traditional gardens is done through seeds, so they are different from one another and vary widely in terms of yield, fruit quality, tree size, spring cold resistance, and resistance to pests and diseases. Traditional gardens of Qazvin have numerous varieties of fruitful and non-fruitful plants that vary in quality and efficiency depending on their cultivars, ecological conditions and their management. Due to the favorable climatic conditions and rich soil of the area, the trees of these gardens include a wide range of subtropical to cold temperature varieties (Avars, 2006)

• Water and irrigation pattern and order

Watersheds of the rivers of Qazvin include Dizaj, Zoyar, Arnzak, Delichai, and Vashti rivers, which are the water source of traditional gardens. Traditional gardens have been constructed around the city in a low-water area with minimal resources and maximum utilization. Water division for irrigation of Qazvin gardens is based on water rights and an ancient scroll, created by a person named Siahkolah. Various methods are used for irrigation of gardens in Qazvin Province, including flooding irrigation, furrow irrigation, cycling irrigation, permanent irrigation and drip irrigation (Fig. 3) (Avars, 2006).

• Various components and spaces in the garden

- Well rooms

The dimensions of these buildings are 4 x 4 m and with the height of 3 m that have thick and arched walls (Fig. 4). They were created next to the water wells used for drinking and cleaning and formerly alongside one or more mulberry or elm trees had been planted for public use. They were used as warehouses and restrooms for gardeners who slept at nights during the harvest season to protect horticultural crops. "Ale": made of a tree branch where gardeners observe the crops (Avars, 2006; Akhavizadegan, 2001; Andaroudi & Sahrakaran, 2017).

• Rituals, ceremonies, and beliefs connected with gardens

The traditional gardens of Qazvin have been the basis of many cultural and social interactions over the years, ranging from water management to gardeners' special literature and celebrations that brought citizens to the garden every year. One of these arrangements is the irrigation order based on a scroll, sealed by Hamdollah Mostofi. One of the ancient celebrations that have remained so far is the "Panjah Bedar" which is rooted in ancient times. In this celebration, people of the city gathered to say prayers for water on the 20th of



Fig. 2. Mixed planting pattern in traditional gardens. Photo: Tahereh Salehi, 2017.



Fig. 3. Water division pool. Photo: Tahereh Salehi, 2017.



Fig. 4. Nayeb Sadr Well House. Right: outer view. Left: inner view. Photo: Tahereh Salehi, 2017.

Ordibehesht or the 50th day of spring, after which they spent the spring afternoon with their family in the garden. This ceremony shows the social features of traditional gardens that, fortunately, has remained to this day (Dizani, 2017; Golriz, 2002; Kermanshahani, 2017).

Molla Khalila park, an effort to reconstruct traditional gardens

Molla Khalila garden is located in Qazvin, Defa'e Moqaddas [Holy Defense] Square (Hamedan Junction), the beginning of Jomhuri-ye Eslami [Islamic Republic] Boulevard (Fig. 5). It is the first garden constructed in the south of this city with an area of 6 hectares to maintain the traditional gardens and expand the urban green space and was exploited in October 2015. Molla Khalila garden is the second largest garden of Qazvin. It is located on the city's entrance route and the western part of the city and providing proper facilities and accommodations such as a platform and a pergola, a W.C., a child playground and a prayer room for passengers has been predicted.

This garden was constructed in Jomhoori Eslami Ring Road, opposite Miveh and Tarebar Square to increase the per capita urban green space, expand the recreational space, and provide services to travelers crossing Qazvin (Table 3). It was constructed with the approach of preserving and restoring old and tall trees, using natural materials and using traditional design in the construction of buildings to partially compensate for the lack of green space in the southern part of the city, and provide citizens with recreational facilities.

Molla Khalila garden has tried to respond to the needs of Qazvin citizens in the recreational, educational, cultural, commercial and residential areas by meeting the requirements of a large urban garden and maintaining the traditional texture of the garden. Due to its specific geographical location on the city entrance route, the western part of the Garden has been allocated to passengers' accommodation. As passengers pass through the southwestern part of Qazvin, this place has been considered a local resort for passengers' short-term stay.

The design of the park is inspired by the architecture of the 1950s and 1960s and the most of the materials were natural wood and stone (Fig. 6). Inside the park, are rooms where travelers and their families can relax. Due to its proximity to the traditional gardens of Qazvin, this garden contains 5 fire extinguishers. This park is specific to families and its playground with an area of 320 square meters has been considered for children.

Unlike traditional gardens, this garden uses a drip irrigation system and is different from the heritage and culture of the traditional gardens of Qazvin, with a thousand-year history and it has been listed on the National Monuments List of Iran.

The materials used in this project are designed to attract more tourists; attempts have been made to use clay, wooden and traditional facade to attract the tourists' attention and to inspire the traditional spirit and give identity to its visitors. It is worth noting that clay materials are not generally used in gardens; buildings in traditional gardens such as well rooms have generally used brick materials.

Restaurants, galleries and many other amenities have been provided in this garden. Construction of bird cages, pond, well room, alley-garden, "Chehel-Panjareh" and "Haft-Darb" mansions, fire extinguishers, drip irrigation system, preservation and revitalization of 550 old trees, the use of natural materials, the use of traditional design in buildings and various recreational, tourist, educational and cultural functions, and temporary accommodation of passengers can be mentioned as features of this garden. Infrastructure, proper lighting, food and beverage booths, old alley-gardens and artificial ponds are other important features of the park.

A commercial mansion (restaurant) is located on the two entrance sides in front of the garden. A W.C. and prayer room have also been considered by the entrance door. A pond is located in the center of the site. There is also a tourist house (Pistachio Garden) on the west side of which is an alley-garden where children play. It contains elements such as the water fountain, the bridge, alley-

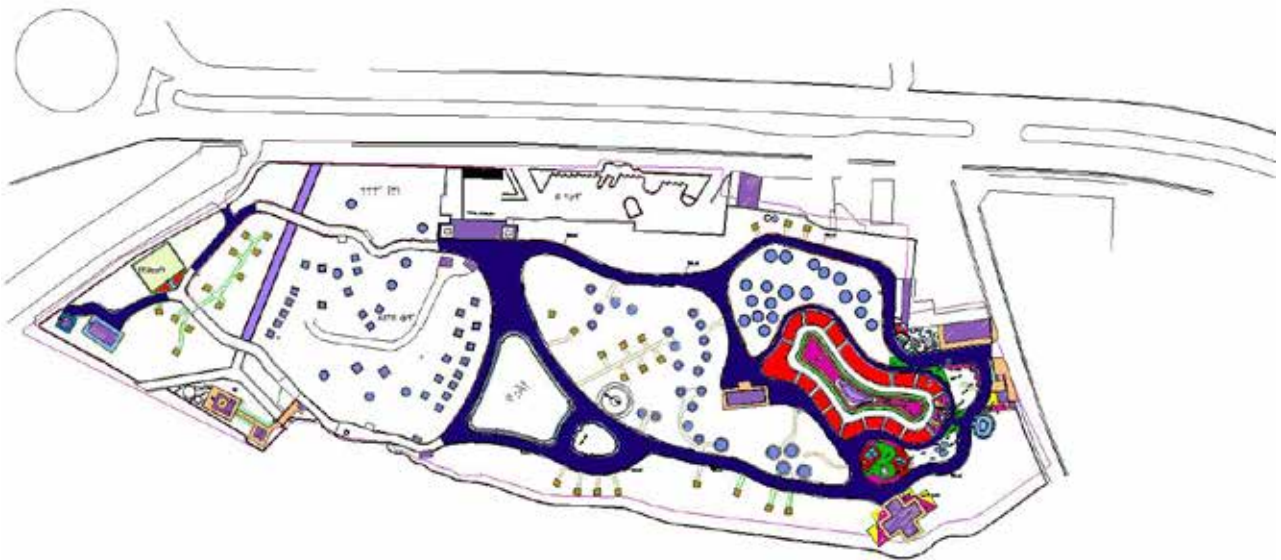


Fig. 5. Molla Khalila garden plan. Source: www.fazayesabz.qazvin.ir.



Fig. 6. North entrance of the Garden. Photo: Tahereh Salehi, 2017.

garden, and buildings such as Haft-Panjareh Pigeon Pond (where birds are kept), Haft-Darb Mansion (Fig. 7), and an office building.

The general policy in park design has focused on preserving the existing trees and even preserving the trunks of dried trees in combination with art as sculptures (Fig. 8).

The use of this garden compensates for part of the shortage of green space in the southern part of the city and appropriate recreational facilities are provided for citizens.

Molla Khalila park and revitalizing the cultural landscape of traditional gardens

The composition of the trees in the Molla Khalila garden,

due to the preservation of the existing trees, is more like the trees of Qazvin gardens and trees such as pistachio, almond and walnut are in this garden. Pistachio trees are planted in the pistachio garden in a pattern different from the traditional garden. In the area of plant species, the park contains traditional species but planting style and general landscape are different from the traditional gardens. As noted above, in terms of irrigation, the park has used a different method from the traditional method; it has used the drip irrigation system. A river runs through a portion of the river site where Shahjooy Bridge connects the two sides of the river. Although additional elements such as the pond are beautiful in themselves, they do not fit well with traditional gardens. Table 1 shows in detail the success

Table 3. Goals pursued and measures taken in Molla Khalila garden. Source: authors.

Goals	Increasing the per capita urban green space, expanding the recreational space, providing citizens more green space and passengers with services
Approach	Preservation and restoration of old trees, use of natural materials, use of the traditional design in buildings
Measures	Passenger house, well room, alley-garden, Haft-Panjareh mansion, Haft-Darb mansion, pond, Pigeon Room, commercial mansion, playground, Shahjooy (Main Stream) Bridge

rate of Molla Khalila garden in establishing links with the landscape of the traditional gardens of Qazvin (Table 4).

The garden is supposed to provide a place for families to go for picnics and recreation indicates that the park has been successful in meeting its original goal, i.e. attracting families, despite not adhering to the garden landscape.

Discussion and conclusion

Molla Khalila garden was built to preserve the traditional gardens of Qazvin as a cultural heritage. The traditional gardens of Qazvin have several special characteristics, one of them is their special irrigation, they are only watered once a year by flood irrigation, while a drip irrigation system is utilized in this garden. Another feature of the gardens is the presence of walls around them due to their particular form of flooding irrigation, causing the garden surface to be about half the size of a person below the boundary between gardens, while this garden uses a different form of bordering. The only difference between the height of the gardens and the path is such that the path is over the gardens. Another difference between this garden and the traditional gardens is the division and borders of the gardens and, consequently, the overall site. The geometrical shape of the garden and even its borders are different from the traditional gardens. The site is enclosed with short walls and protective fences.

Since the park's design policy is to preserve the site's existing trees, its trees have the same trees of the traditional garden, with pistachio and almond trees. However, it is noteworthy that its planting combination has no particular order and is mixed.

What is most visible in the design of the park is its old and traditional architecture. It seems that the representation of traditional gardens has not been considered as a major goal in the design of Molla Khalila park and therefore, despite initial considerations such as planting species, the park seems different from the traditional landscape of Qazvin Garden. preserving and revitalizing the cultural landscape of Qazvin gardens requires considering components beyond traditional materials or maintaining individual trees.



Fig. 7. Haft-Darb of Molla Khalila garden. Photo: Tahereh Salehi, 2017.



Fig. 8. Using art in dried trees' trunks. Photo: Tahereh Salehi, 2017.

Table 4. A comparison of systems influencing the landscape of the traditional gardens of Qazvin and Molla Khalila garden. Source: authors.

Subject	The traditional gardens of Qazvin	Mollakhalila garden
Planting plan	Mixed and disorderly planting of plants	Orderly planting of pistachio garden
	Planting grape plants in the garden floor	Absence of grape plants
Water system	Flooding irrigation once a year	drip irrigation
	Streams	Absence of a stream or a symbol of it
Structure	Organic geometric shape	Use of curved lines
	Bordered with furrows	Bordering the gardens without the height of borders and the lack of furrows
Space	"Ale"s	Absence of "Ale"s
	Well rooms	Absence of good rooms
Activity	Picnic and recreation	Lots of space for picnics and family fun

Endnote

* This article is taken from Tahereh Salehi's thesis entitled "Regeneration of Qazvin's traditional gardens landscape, designing and reconstructing Hezar-Jarib site" conducted by Dr. Ayda Alehashemi and consulted by Dr. Muhammad mahdi Zarrabi on 30/4/2018 in Imam Khomeini International University of Qazvin.

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