

# Garden as an Urban Development Driver in Iran

## "Garden-Axes" and Development of the Historical City of Shiraz

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**Abstract** | "Garden-axis" –the urban structural axis influenced by the gardens– is a great urban element in the cities of the Safavid era. Cities such as Qazvin, Isfahan, Mashhad, Shiraz and Nishabur, developed with garden-axes during this era. The first Safavid rulers built their new capitals by connecting them to old towns with garden cities which were organized around a special kind of public garden spaces (squares and streets).

Shiraz, owes its civic life to existence of gardens, such as "Garden-axes" and also governmental gardens. The main question in this article is "What is the role of garden-axes in the development of Shiraz?"

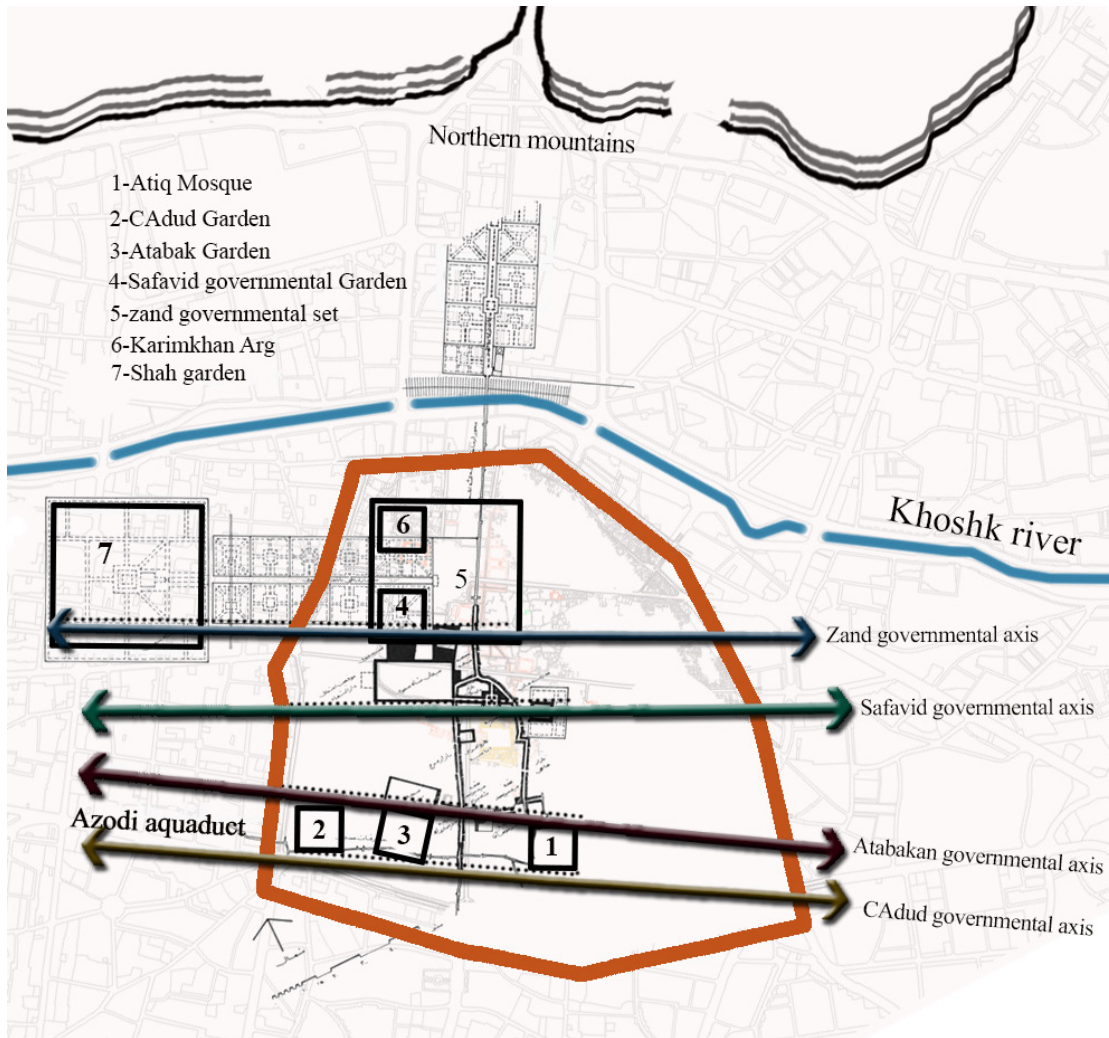
To answer this question, at first the concept of garden-axes and two garden-axes on north and west of the city is explained. Then their role in urban development during the Zand era and after it was analyzed and evaluated.

The results show that garden-axes has been an achievement which drove gardens in the historic city of Shiraz in the Safavid era for the physical manifestation of the spatial structure of the city in the new system. Not even northern and western garden-axes of the city were the identification elements in the urban system, but they also have an important role in urban development.

The formation of these garden-axes, represent Safavid basics of building gardens for identifying of the entrances to the city (Estakhri gate) and also led the development of the city during the Zand and Qajar and Pahlavi era. In the period of Karim Khan Zand Government, creation and integration of gardens with government buildings, including Bâgh-nazar and Arg-Karimkhan Garden, along with revival of two garden-axes of north and west, strengthened the urban system.

In the early stages of urban development of Shiraz in the first Pahlavi era, the western-oriented garden-axes became Karim Khan Zand Street and in later periods, the integration of important administrative activities in this street and the process of development, led to the breakdown and destruction of gardens.

**Keywords** | Garden-axes, Shiraz, Persian garden, Safavid, Zand.



Pic 1: Main structure of the city during Būyid, Atabak, Safavid and zand era.  
Source: Author.

**Introduction** | Although “Garden City” was a prevalent form of the old city in Iran, by the Iranian cultural interest in nature, but in the urbanism literature it is related to a theory that was introduced for the first time by Ebenezer Howard in the nineteenth century.

Overview of scattering gardens in historical cities of Iran indicate a specific order that suggests their role in the city is beyond their function as beautifying elements in the environment mentioned in Howard's theory of garden city. This paper, based on the study of garden-axes in Shiraz and their role in the spatial organization of the city, seeks to verify and examine this theory.

Locating urban and suburban gardens of old Shiraz, is sequence of two main components:

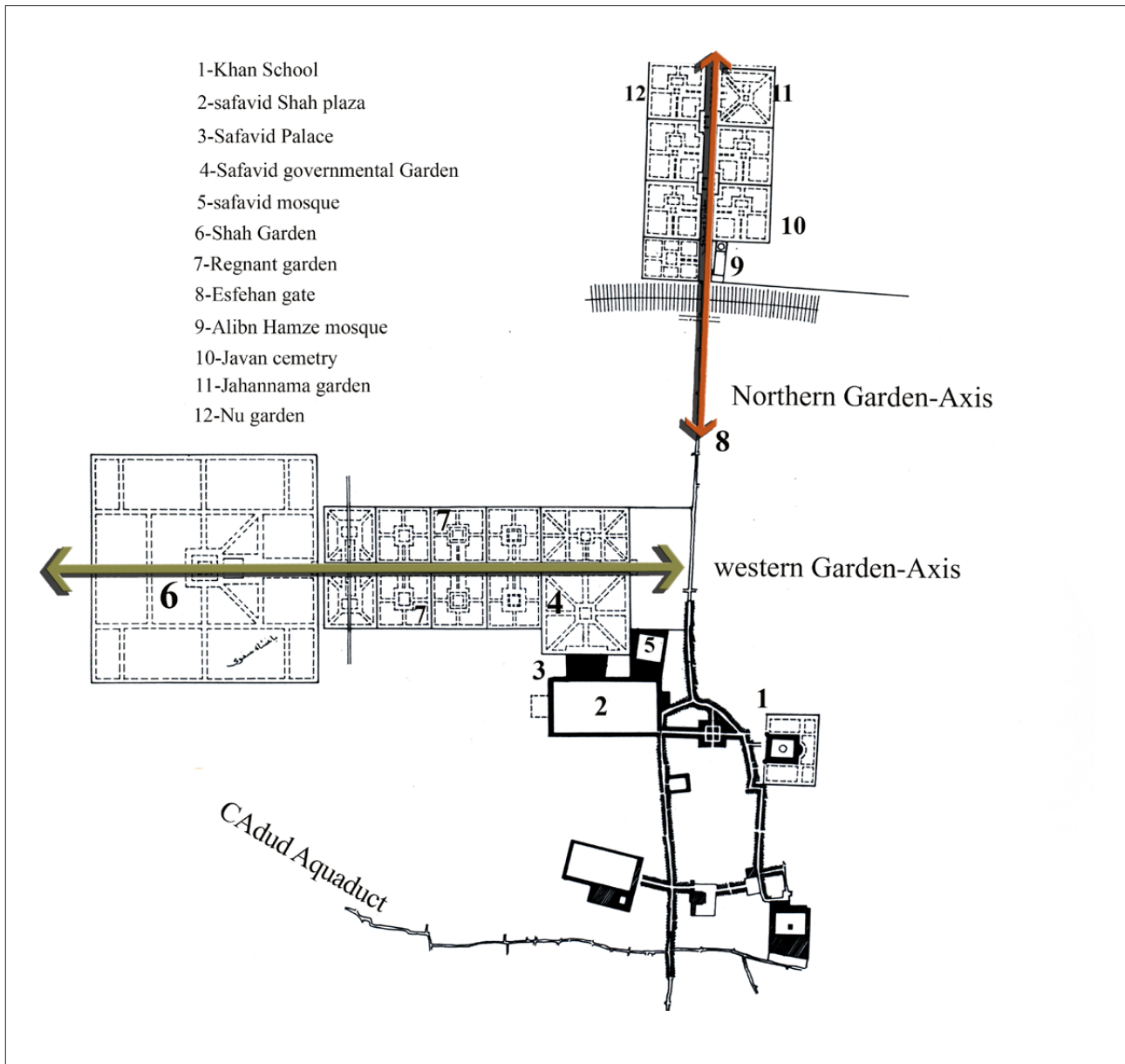
A: slope or gradient of land and water resources which are inevitable;

B: structural axes of city which each dynasty or government create as a symbol of its sovereignty.

Developments can be observed by studying the spatial organization of the city. Forming of Shiraz in every era has its own characteristics. The growth of the city during the fourth century AH (Buyid dynasty) to the twelfth century (Zand) has taken place orderly and the governments of Buyid, Atabak, Safavid and Zand dynasties have had a more prominent role in shaping and expanding the city (mansouri & Arabsolghar, 2015: 18).

Civil operation of rulers to consolidate their dominion over any period were done in three main stages: Creation water sources (which follows the slope of the land), construction of the city center (mosques, bazaars, palaces and gardens) and creation of governmental structural axes to coherence the construction of urban spatial.

In addition to the longitudinal direction of the city that matches the bazaar path and linked the northern city gate (Estakhr-gate) to south gate (Salm-gate), there was four transverse axis in four listed reign, which had connected



Pic 3: Two main garden-axes of Shiraz; created in Safavid era.  
Source: Author.

governmental buildings in the west to religious spaces in the East.

Direction of these axes was along "Qanat al-Dawla" which was built for water supply to governmental buildings of Azodi era.

In each period, governmental elements, which started with palaces and gardens that are attached together and lead to a religious element, dominated the other urban systems (Falamaki, 2004: 60-64). The common thing of these four elements was the starter element, the bureaucratic rule sets which have been incorporated into the garden state. The state gardens of "Azdodole Deilami" in the fourth century and "Atabak" in the fifth century A.D. are initiating and identifying elements of governmental axes of those two

periods (Pic. 1).

In the Safavid period, two Garden-Axes at north and west of the city was made which on the one hand represents the Safavids gardening principles for the identity of the entrances to the city (Estakhr-gate and Bâghshahi-gate) and the other hand lead to developing of the city during the Zand and Qajar and Pahlavi era. The main question is "what is the role of Garden-axes in the development of the city during the Safavid and Zand era?"

It should be noted that the study about the historic city and urban transformations in different historical periods are done frequently in contemporary researches. In this article the aim of reviewing the garden-axes, is to redefine the role of gardens in spatial developments of the city.

Garden-Axis		Physical aspect			Functional aspect	The impact on the spatial organization of the city
		End element	Other elements	Other elements		
Northern Garden-Axis		Isfahan gate	Mosque	Jahannama garden, Nu garden	Creating a new identity for the city entrance	Development of city in Pahlavi era
Western Garden-Axis		Safavid governmental garden	Governmental garden	Regnant gardens	Pedestrian way and a government passway	Development of city in Pahlavi era
Governmental Axis	Buyid	Governmental garden	Atiq mosque	Residential	Governmental axis	Defining the transversal axis of the city, Joining the political, commercial and religious functions
	Atabak	garden	Atiq mosque	Residential		
	Safavid	Governmental garden	Khan school	Public functions		
	Zand	Palace-garden	Vakil mosque	Public functions		

Table 1: Categorizing the main aspects of garden-axes in Shiraz.  
Source: Mansouri & Arabsolghar, 2015.

## On the Essence of "Garden-axes"

The main structural elements of the city can be categorized as:

- Center or the core
- The structure of the city
- Small wholes

In which, the structure links the small wholes to each other. The core and entrances are connected to the structure. The structure may contain major and minor organs through which puts all parts of the system in conjunction with each other. The distinctive Element in the Structure in the most cases is the passway (Mansouri, 2007: 4).

In the Safavid era, the passway was designed as an urban element and has been considered as a Garden-axis (Châhâr-bâgh), in order to introduce the new identity of the city and also the largest tree-lined walkway, according to the main axis of Persian gardens and was built as a main urban axis of the garden-city of the Safavid (Haghighatbin et al., 2007: 22-23).

Civic organization of Shiraz in the Safavid era was formed on a new axis parallel to the governmental axis of Buyid and Atabak era.

This axis started from The Khan School in the east and end in Shah square in the west. The Shah square contained a collection of palaces, hospitals (Daroshafa) and Safavid mosque that was behind the Safavid palace, which government gardens has been attached to it.

North side of the government garden was adjacent to a path which was linked to the Shah garden outside the city and the squirearchy of the city was built gardens on both sides of it (Falamaki, 2004: 60-64); (Pic. 2). At the same time another axis was built as Châhâr-Bâgh which extended from the north gate (Esfahan-gate) to Allahu Akbar canyon (Dieulafoy, 1982: 255-259).

In addition to the governmental axis mentioned in the previous governments, during the Safavid period, two important Garden-axes formed the spatial structure of the city. The first Garden-Axis began from the north gate of the city (Allahu Akbar canyon) and ended to "Ali Ibn Hamza mosque" and the second Garden-axes axis began from the safavid governmental garden and ended to "Bâgh-Shah" near to the west gate of City. The process of construction and development of this axis with the help of gardens on the one hand and the role of the two axes of urban development during the Zand and Qajar era turn it into one of the main freeways of the modern era and on the other hand, shows the importance of this revision. We can define these axes by their geographical location in city, the northern Garden-axes axis and the Western Garden-axes axis.

In the following summary of the features of these axes is expressed and it's functional and physical indicators are categorized in Table 1.

## Garden-axes Formed in the Safavid Era

### •The northern garden-axis of the city

Old Shiraz road at the northern and eastern areas was passed from "Pahandezh" gate near the Pahandezh castle (Sa'di). In Safavid era by "Imam-Quli Khan" the mountain that was in route of Shiraz to Isfahan was cut in order to lead traffic from "Allahu Akbar canyon". After that, Garden-axes area of Shiraz was imitational formed like Isfahan "Châhâr Bâgh" in order to shape a worshipful entry to the city of Shiraz (Pic. 3).

City gate leads to a beautiful street which is fifty feet wide. On both sides of the street, there are gardens that each one of them has a grand entrance that have been ornamented by a half-dome vault. There is a pergola over each entrance. Garden doors on two sides face each other and their





counterparts have created an interesting view. There is a large marble pond square placed in the middle of the street and it's always full of water. The width of the pond is same as the width of the street, hence entrance to the gardens were built thirty feet away so people can pass from sides of the pond (Tavernier, 1957: 657).

Required water for watering the gardens of this axis was transferred by plumbing from the central pillars of the "Roknabad" aqueduct. Herbert in his logbook describes the way of watering: Pipes that are based on pillars comes from mountain to mountain. Iranians say this narrow mountain "Allahu Akbar", from that water gained to most gardens full of flowers and fruits and scenic surroundings (khoubnazar, 2003: 915).

What Herbert had seen from the water piping in tight "Allahu Akbar", was the first city's water plumbing work. Work in the Safavid period began and ended Karim Khan in later periods.

#### •The western garden-axis of the city

In Safavid era, the beginning of this axis was the governmental garden which was located in the royal Plaza and was leads to the "Bâgh-shah" which was out of town. Gardens of courtiers around this axis completed the "Garden-axes" area of the city.

Outside of Shiraz, in the northwest there is a great street that leads to the garden that is known as "Bâgh-shah" (Tavernier, 1957: 512).

Over the entrance of this garden there is a beautiful mansion and a large lake can be seen on the left side of the mansion. From the garden to the mountains is a plain with two miles long and one mile wide, all the plain was covered by vineyards that belong to smallholders, whoever pulled the fence around their vineyard (Afsar, 1995: 143).

The street was from "Bâgh-Shah" gate and lead to the entrance of "Shah" garden, Gardens on both sides of the street were built with fortified walls, and mile stone bars were placed on both sideways of the street (Kiani, 1995: 660). During the Zand era, Karim Khan, rebuilt and completed this axis. Growth of this axis was continued in the Qajar era and political figures built several gardens around it (Pic. 4).

### The Place of Garden-axes in the Urban Developments of the Zand Era

After the fall of the Safavid till Zand came to power in 1180 AH, Shiraz was hit by a severe flood that caused a lot of destruction. In 1136 AH, the commanders and soldiers of the Mahmoud Afghan captured the city and in 1157

Pic 3: Northern garden-axis to Ghoran gate, Ghajar era.  
Source: Sane, 2001.



AH generals sent by Nadir Shah surrounded the city and destroyed all the gardens and fruit trees outside the city. In general, within a hundred years not only no development was done but also the Safavid period ones were destroyed (Sami, 1984: 508).

Karim Khan who started building up the city since 1180 AH, usually built his government buildings on the destroyed gardens. Karimkhan facilities was built around the access to Safavid "Bâgh-shah" that was the fourth axis positioning (Bonyadi, 1992: 62).

As a result the Safavid garden transformed to "Bâgh-nazar" garden and on the other side, the citadel was built. Another action of Karim Khan was building the current "Zand" Street, which had trees in the middle of it and then trees

were cut down by Mahmoud Ayrom. Many gardens which beautified the street have been converted into residential areas now.

Karim Khan Zand, moved subterranean water from the north of the city by underground aqueduct and hydraulic structures in order to water the gardens. The structure of the waterways was discovered in the excavation of the modern era. Javaheri explained that: underground aqueduct from its start (Allah Akbar canyon) to its end (the Citadel) was more than 3 km long and at least two meters below the ground surface. In excavation of Vakil bazaar's underpass some examples of water supply structures from previous eras were detected (Javaheri, 1992:39).



Pic 4: Western garden-axis to "Shah" garden, Zand era.  
Source: Sane, 2001.

## Analysis of the Position of Gardens in the Spatial Organization of the City

According to Diagram 1, Gardens and cities have a two-way interaction. On one hand the natural profile of a city such as mountains, rivers, water sources and even the government decision based on how structuring the city, as predefined, determine the location of the gardens. On the other hand, Gardens plays a key role in the spatial organization of the city by having an identity role in governance and leading up the issues of developing the city in later periods.

In the map no.1 the establishment of gardens in the city, pursuant to effect of the governmental decision in urban and natural causes can affect suburban is mentioned.

The structural relation between the garden and the city due to the evolution of the city is explained:

- Creation of "Azodi" subterranean in the fourth century, following the slope of Shiraz;
- Establishment of the "Buyid" governmental axis aligned with "Azodi" Aqueduct in the fourth century, government buildings in the west and religious elements in the east of Bazaar axis, perpendicular to the governmental axis;
- The foundation of the "Azdodoleh" governmental garden as a starting point of government axis;
- Creation of "Atabakan" and "Safavid" governmental axes parallel to the governmental axis of Azodi aqueduct, following the slope of flat of Shiraz and creating governmental garden in the vicinity of government buildings in starting point;
- Foundation of the "Takht Gharache" and "Sabuh Abad" gardens in the northern highlands of city during "Atabakan" in the fifth century AD;
- Transferring water from canals for irrigation to Safavid gardens;
- Creation of northern and western parts of the garden city of the Safavid period, identity of gates of the city, created during the Zand and Qajar and Pahlavi development
- Construction of "Jahan Nama" Garden, "Nu" Garden, the garden of the king and the other men to complete and identification northern and western parts of the city.
- Foundation of royal collection the Zand period in the twelfth century, construction of "Manzar" and "Monzam" gardens near "Karim Khan" cathedral.
- Completion of transferring water from the aqueduct pillars of Zand Abad to irrigate the royal collection
- Continuing the process of constructing government gardens during the Qajar era (Mansouri & Arabsolghar, 2015: 17).

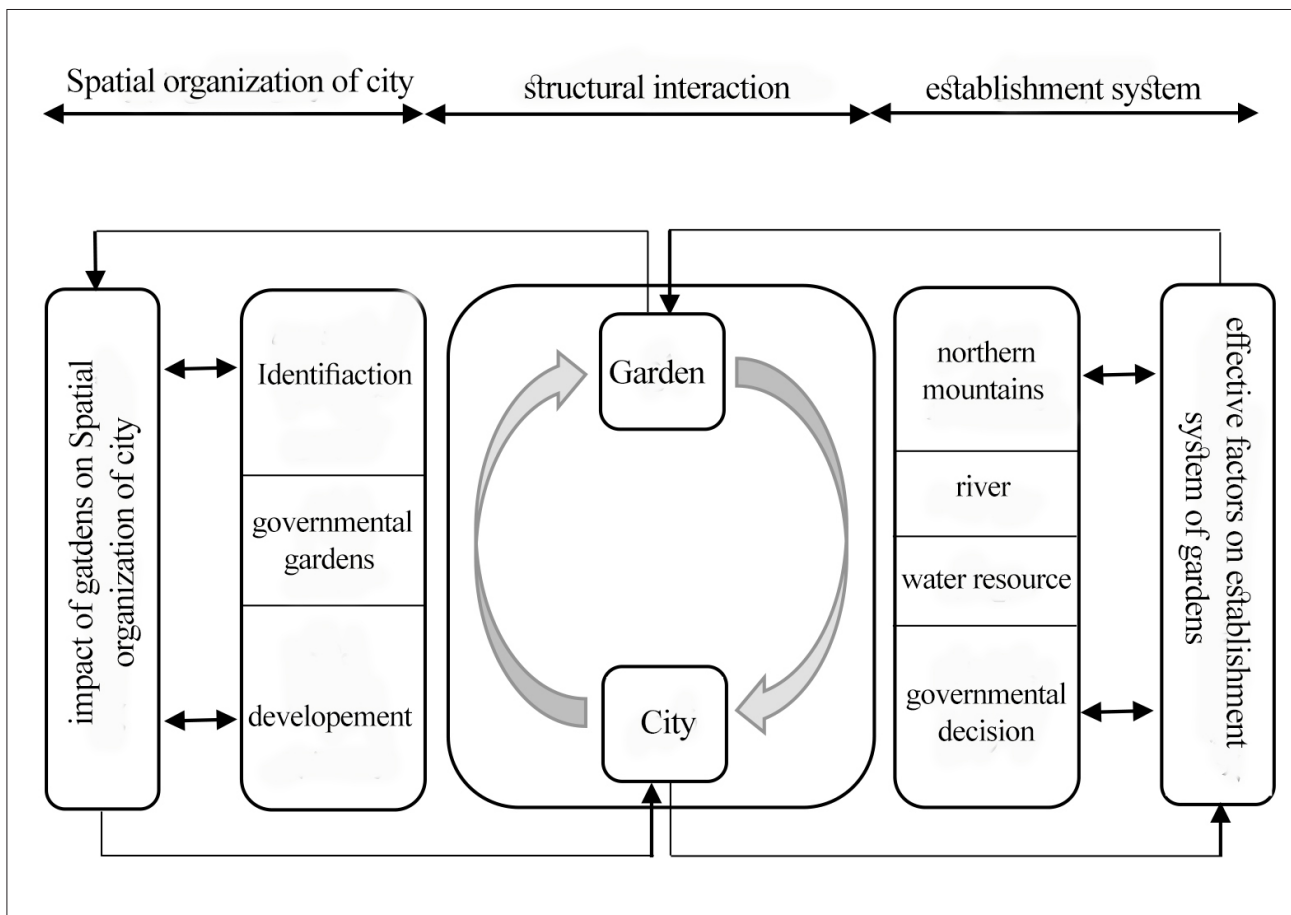


Diagram 1: The interaction of garden and the city.  
Source: Mansouri & Arabsolghar, 2015.

**Conclusion** | In Shiraz, garden, which is known as a product of civilization that is accessible and meaningful, is a key element in development of the city. Garden-axes or city axes attached to gardens has been devised in the garden cities as a physical manifestation of spatial structure of the city.

In most Iranian cities, garden-axes were in compliance with the structural elements of the city's spatial organization. This element is limited and defined with service centers on one side and a holy place on the other side.

Northern and western garden-axes in were an identifying element in the urban system and also had an important role in urban development. The formation of two northern and western garden-axes in the Safavid era represented the

Safavids gardening principles for identification of entrances to the city (Estakhri gate and Bâghshah gate) and also led the development of the city during the Zand and Qajar and Pahlavi era.

In the era of Karim Khan Zand, creation of governmental sets and integrating it with gardens of the royal government including the "Nazar" and "Manzar" gardens and the garden attached to "Karim Khan" cathedral, strengthened two garden-axes and also the urban system. As in the early stages of urban development of Shiraz, Western Garden-Axis transformed to "Karimkhan" street and the important administrative activities were gathered in this street, a process which in the later years, led to the breakdown and destruction of these gardens.

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