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## Vernacular Cultural Landscape of Qazvin's Traditional Gardens: A Review of Basic Concepts and Analysis of Elements and Features within the Scope of Built Environment

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### Abstract

Cultural landscape represents different meanings such as the interaction between people and the environment, evolution through time, cultural tangible and intangible values and vernacular traditions. The term “culture” represents people’s relationship with their inhabited environment to gain a livelihood and presence of tangible or intangible values. These values are the common notion between cultural landscapes and cultural properties. This research aims to study one of the registered sites of Iran’s cultural heritage, the Qazvin’s Traditional Gardens with the cultural landscape approach; The research hypothesis is to discover common notions between cultural landscape and the Gardens such as evidences of mutual relationship between the Qazvinians and the natural environment of the region and management of water resources throughout history which will be investigated by referring to national and international documents. For example, the inhabitants as the gardeners have used the annual flood of seasonal rivers and have implemented a special irrigation system for the Gardens named floating agriculture in the submerged area once a year. The Garden trees such as pistachio, almond, apricot and grape are resistant to harsh weather and have produced precious fruits throughout history. Two major characteristics of the Gardens, that means historic continuity and vernacular characteristics can categorize them under “continuing landscape” or “vernacular historic landscape” according to the upper level classifications. The major contribution of the research is an analysis of the Garden’s features or elements according to the documents of WHC or NPS. These multifaceted features are studied specifically in three categories of natural resources, plantation, and ecological systems; built environment consisting of spatial organization, circulation paths, irrigation systems and objects and structures; and human factors and management systems of traditional gardening. These wisely interconnected features are evidences of mutual interaction between people and the environment. As a paper in the field of architecture the research has studied physical elements such as land patterns, spatial organization, structures, site furnishings and objects in more detail. Conclusively, the research shows an integrated interrelated relationship between elements of the cultural landscape of Qazvin’s Traditional Gardens. The research emphasizes on a comprehensive approach toward preservation of different interconnected built and natural elements of the Gardens and human factors to ensure a sustainable relationship between people, environment and economy of Qazvin’s city over the centuries. This work is an applied research with descriptive and analytic method of information gathering and retrieval. Its data type is qualitative.

### Keywords

Continuing Cultural Landscape, Historic Vernacular Landscape, Qazvin’s Traditional Gardens, Landscape Features, Built

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## Introduction

The cultural landscape is an enhanced and a multi layered concept which links different meanings together from human, environment, culture, history and vernacular communities (WHC, 2009:17). Currently different definitions and categories of cultural landscapes are presented by World Heritage Center and several sites are registered in the list of World Heritage Cultural Landscapes (88 sites in 61 countries till 2016). Registration of “Bam and its Cultural Landscape” after the 2003 earthquake in the list of World Heritage (2004 in the list of sites in danger and 2013 in cultural landscapes), with significant relics such as the Bam qanats and the ancient citadel, or registration of Persian Gardens (2011) and recently cultural landscape of Meymand (2015) has drawn more attention to the cultural landscape in Iran. However, a discussion of the cultural landscape raises several questions about different meanings, general categorizations, composing elements and influential factors, and varied approaches toward conservation and maintenance.

This research aims to study the Qazvin’s Traditional Gardens, which are registered in the list of heritage sites in Iran (in 2013 to number of 310195) through cultural heritage approach. Before any analysis and synthesis of the Gardens, some basic questions are raised. For example, are the Gardens a type of Cultural Landscapes? If they are, what are the common concepts? What are the features and factors of the Gardens as Cultural Landscape and what are the relations between them? These questions have motivated the researchers to study different meanings, categories and features of Cultural Landscapes in relation to the Qazvin’s Traditional Gardens.

## Research Hypothesis

The hypothesis of this research is based on a concept of Cultural Landscape which represents the interaction between human and nature. In the case of the Qazvin’s Traditional Gardens, this hypothesis clarifies different methods that have been developed by people to overcome the natural obstacles and to use limited water resources of the region and create gardens that have endured for

more than 10 centuries. The essence of such hypothesis is the sustainable relationship between the Gardens and the Qazvin’s environment over centuries, which have supported the economy of the inhabitants and their life. Consequently, the research aims to introduce the Gardens as Continuing Vernacular Landscape which is taken into account as part of cultural properties of Iran. The hypothesis is strengthened by the study of different features and factors of the Gardens such as natural environment and ecological systems, built environment and plantations, and human or management systems. This hypothesis gives direction to the conservation of the Gardens which are considered not only as a single historic site, but also as a Cultural Landscape with interwoven natural, built and human features and elements.

## Research Method and Material

This work is an applied research with descriptive and analytic method of information gathering and retrieval. The data type is qualitative. The research process starts with data collection and library and field survey, organization and categorization of data, narration and interpretation, analysis and synthesis to acquire the knowledge needed to prove the hypothesis. Several historic resources as well as published material in Iran or worldwide, specifically WHC, ICOMOS or NPS are studied. The archive of different organizations such as the Qazvin municipality or National Cartographic Center of Iran is reviewed. The cultural, social and economic background of the gardens is studied and necessary surveys such as interviews with the gardeners are conducted. The spatial domain of the research is the City of Qazvin and the area of the Traditional Gardens around the city.

## A Review of the Literature and Basic Definitions

The notion of cultural landscape is studied in different writings in Iran. Mansouri has studied the definitions of landscape and landscape architecture in comparison with terms such as vista or scenery and introduced the landscape architecture as: “An interdisciplinarily new art and science which focuses on organizing the outer

spaces and observes carefully the aesthetics of space and its memorable dimensions” (Mansouri, 2004: 71). Eshrati and Hanachi have studied the concept of a Cultural Landscape to be able to recognize different layers of its meaning and have studied the meanings about people, ecosystems and culture (Eshrati & Hanachi, 2015: 44). They even have reviewed very general notions of science, philosophy, religion and mysticism. Pooryousefzadeh and others have studied the cultural landscape with the purpose of reviewing restoration factors in the historic site of Behistun and have focused on ecological features of the site (Pooryousefzadeh, et. al., 2012: 40). This study shows mountain, water resources as rivers or fountains, soil, vegetation and wildlife as major characteristics of the Landscape. Landscape and Cultural Landscape are also studied by Almasifar and others and the principles of preservation of cultural landscapes are presented based on the international charters or guidelines. The case study of this research is Takht-e Soleymān historic site. Some strategies are presented for revitalization of the cultural landscape of the site.

Our research has studied a very important notion of cultural landscape which is less discussed in the above mentioned writings: the relationship between human and nature. With this notion the word culture can be considered as a wisdom which people develop during time to interact with their inhabited environment throughout history (Beheshti, 2015: 1). This indication emphasizes on a definition presented by the World Heritage Centre which introduces Cultural Landscape as a “combined work of nature and of man”. The definition provided by WHC is “Cultural landscapes are cultural properties and represent the combined works of nature and of man” designated in Article 1 of the Convention. “They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal”. In this definition describing term ‘cultural’ has been added to express the human interaction with the environment and the presence of tangible and intangible

cultural values in the landscape. (WHC, 2009: 17). The most general feature to recognize a cultural landscape is a human settlement (city or village) in its region. Fowler has cited: “cultural landscapes are often about living people as much as living landscapes; they may sometimes be remote but in general they are not deserted places. They are characteristically areas where people are continuing to try to gain a livelihood” (Fowler, 2003: 21). Here the definitions of the world wide resources have focused on people’s action and reaction with the environment to overcome the limitation and treats and to discover and use overt or covert resources, specifically water; the notion of culture is the representation of such endeavor during the history and the manifestation of tangible or intangible values.

### **Cultural Landscape of Qazvin’s Traditional Gardens**

Basic notion of Cultural Landscapes as the wisdom of interaction between people and the environment and development of cultural values and vernacular traditions are visible in the Qazvin’s Traditional Gardens. The Gardens show evidences of the interaction of people with Qazvin’s natural environment during the history and conversion of natural treats (such as cold weather of northern Alborz Mountains and warm weather of southern Central Desert or seasonal floods) into resources. A ring of gardens and farms has been formed around the city and vernacular cultivation has been endured during the centuries (Beheshti, 2011). The major contribution of this interaction is the management of water resources which is a very important capability in the dry weather of Iran. Qazvinians could use the flood of seasonal rivers that originate from high Alborz Mountains in the north of the city as an irrigation resource for the Gardens. The whole integrated ground of the gardens is irrigated in a short period of time in different shots, depending on the water level at the end of winter and the beginning of spring. Therefore, during hot summers, the Gardens don’t need water and can endure and give products. In local phrases this irrigation system is called “Takhtāb” or “Qarqāb” which means floating or flooding with water (Safipour, 2004: 96). Therefore, a destructive natural

force changes into an important water resource. Besides, the sediments that are carried away by the flood are not left as dreg. They are kept by the ring of the Gardens as a very fertile agricultural soil. Consequently, the garden's soil has several fruitful organic and mineral compounds with water permeability around 20 cm proper for flooding irrigation (Akhavizadegan, 2002: 184). Plantations of the Gardens such as trees and bushes below them have the adaptability with the natural ecosystem and are safe from pests. Vernacular gardening systems have formed in mixed cultivation of different trees in a single farm. For example, pistachio trees<sup>1</sup> are cultivated together with almond, apricot and cherry trees and grape bushes. They are irrigated once in spring (in several shots) and resist to drought, harsh cold winters and hot summers of Qazvin's region (Beheshti, 2011: 14-15 cited from Akhavizadegan, 2002: 17) (Fig. 1). These trees, which bloom late in spring have endured the harsh winters of Qazvin throughout centuries.

The history of Qazvin's Traditional Gardens goes back to 12th century A.D.; Zakariya' Ibn Muhammad al-Qazwini (1203–1283) have cited that the Gardens are formed as a green ring around the city of Qazvin (Golriz, 2003: 146) (Fig. 3, right). The Gardens continue to support the city's economy during different periods of Qazvin's life. Different travelogues have referred to the Gardens in Safavid period, such as Pietro Della Valle (1586-1652), Jean-Baptiste Tavernier (1605, 16089), or Qajar period such as

Mamontov (1795) or Jane Dieulafoy (1851-1916). In the city plan of Qazvin in 1915 the Gardens have been shown around the city connected to the city wall (Matteini, 2001). The Gardens exist till today; however, the city expansion has destroyed the northern part of the Gardens and the areas along the modern roads and streets (Fig 3, left).

Qazvin's Traditional Gardens represent two important characteristics of Cultural Landscapes: the historical continuity and vernacular traditions. Therefore, the research has searched the category of the Gardens among worldwide classifications of Cultural Landscapes presented by WHC or NPS.

Generally Cultural Landscapes are divided into 3 main categories: landscape designed and created intentionally by man; associative cultural landscapes which shows virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence; and the organically evolved landscape which results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in responseto its natural environment. The Qazvin's Gardens can be considered as a subcategory of the organically evolved landscape called "continuing landscape" which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time, it exhibits significant material evidence of its evolution over time (WHC, 2008: 84).



Fig 1. Right: the mixed cultivation of the gardens and the flooding irrigation. Source: the authors.  
Left: the old pistachio trees in the fruit season. Source: Personal archive of Mahdi Motamed.

In other references, especially National Park Service, Qazvin's Traditional Gardens can be considered as "Historic Vernacular Landscape" which is defined as "a landscape that evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes of an individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. The function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes" (Birnbaum, 1994: 2).

### **Analysis of Features and Elements of Qazvin's Traditional Gardens Based on World's References of the Cultural Landscapes**

Based on the basic definitions of the Cultural Landscapes, the Qazvin's Traditional Gardens represent different evidences of the interaction between people and their environment and reflect the vernacular gardening of Iran. Therefore, the composing elements and features of the gardens are not limited to historic relics and contain different aspects of the natural and built environment as well as human factors. This part of paper investigates these evidences and classifies them based on the features that are introduced in the world wide references such as WHC or NPS.

Cultural Landscapes consist of elements referring to varied disciplines: from trees and bushes to the bowers, from rivers to topographies, from gardeners to planting methods. These elements give specific character and layers to the cultural landscape. There are different categorizations of elements of Cultural Landscapes according to worldwide references. WHC have listed these elements as (WHC, 2009: 45):

- Land patterns (overall arrangement and interrelationship of forests, meadows, water, topography, built components and other larger landscape components);
- Landforms (natural hills, valleys, slopes, plains, geomorphology such as ridgelines, cliffs and coastlines and exposed rock formations and

other topographical features; as well as terraces, embankments, and other human engineered topographical changes to the underlying ground plane);

- Spatial organization (arrangement in three dimensions of a landscape's component elements, their relationship to each other and their relationship to the overall landscape

- Vegetation and other natural resources and ecological systems (trees, shrubs, herbaceous plants, grasses, vines and other living plant material; forests, woodlands, meadows, planted and fallow fields; individually important plants such as a specimen tree or an avenue of exotic trees; other natural resources such as wildlife, and ecological systems that represent heritage values)

In the Guideline for the Treatment of Cultural Landscapes provided by National Park Service, features of Cultural Landscapes are defined as: The smallest element(s) of a landscape that contributes to the significance and that can be the subject of a treatment intervention. Examples include a woodlot, hedge, lawn, specimen plant, alley, house, meadow or open field, fence, wall, earthwork, pond or pool, bollard, orchard, or agricultural terrace. NPS defines Organizational Elements of the Landscape as "Spatial Organization and Land Patterns" which refers to the three-dimensional organization and patterns of spaces in a landscape, like the arrangement of rooms in a house. Spatial organization is created by the landscape's cultural and natural features. Some form visual links or barriers (such as fences and hedgerows); others create spaces and visual connections in the landscape (such as topography and open water). The organization of such features defines and creates spaces in the landscape and often is closely related to land use. Both the functional and visual relationships between spaces is integral to the historic character of a property. In addition, it is important to recognize that spatial relationships may change over time due to a variety of factors, including: environmental impacts (e.g. Drought, flood), plant growth and succession, and changes in land use or technology.

Character-Defining Features of the Landscape are introduced as: Topography, Vegetation, Circulations, Water Features, Structures, Site Furnishing and

Objects. The latter three features are the focus of this research to describe built environment of the Qazvin's Historic Gardens and with details of (NPS, 1995):

- Circulation features may include roads, parkways, drives, trails, walks, paths, parking areas, and canals.
- Water features include fountains, pools, cascades, irrigation systems, ponds, lakes, streams, and aqueducts.
- Structures, site furnishings, and objects include walls, terraces, arbors, gazebos, follies, tennis courts, playground equipment, greenhouses, cold frames, steps, bridges, and dams.
- Site furnishings and objects include benches, lights, signs, drinking fountains, trash receptacles, fences, tree grates, clocks, flagpoles, sculpture, monuments, memorials, planters, and urns. They may be movable, used seasonally, or permanently installed. Site furnishings and objects occur as singular items, in groups of similar or identical features, or as part of a system (e.g. Signage)

Features of Historic Gardens of Qazvin can be studied using the framework provided by WHC or NPS. Here the paper presents these features as well as other factors that are proposed based on field surveys in 3 categories of natural elements, vegetation and ecologic systems (Water, land, plants), built elements (gardens and constructions), and human factors (gardening methods, management systems and ownerships). As a study with a focus on the built environment, this paper introduces the first and the third category in brief and the second category which is related to architectural heritage in detail (table 1).

1. Natural Elements, Plantations and Ecologic Systems: High Alborz mountains which start 5 KM above the northern area of the Gardens; several seasonal rivers that run through the city from north to south and are located on both east and west sides (Fig. 3, left), land topography with an average slope of 0.5 to 1 percent of north to south, from a height of 1320 to a height of 1270 m (according to the profile taken from Google earth and local survey)

2. Built elements

- Spatial Organization and Land Pattern

a. Spatial Organization at the Scale of the City of Qazvin:

A ring of gardens around the city with average width of 2.5 KM. There are vast destructions in northern parts which expand to east and west and along the modern roads

b. Spatial Organization at the Scale of Garden's ground: An organic non-geometrical network of short earthworks with an average height of 1m and a section of Trapezium which separate the border of the Gardens and are used as pedestrian circulation paths (Fig. 1), and the furrows which follow the organic line of the earthworks and direct the water to the garden's opening. These furrows gradually join each other along the organic land pattern and form bigger streams. The streams are derived from the east and west seasonal rivers with the clustered radial form (Fig. 4). Besides, the Garden's neighborhoods consist of terraces that are irrigated from the same stream and have the same gardener. Fend or Sāmān (a Persian term similar to a district) consists of 4 or 5 neighborhoods, and each one has a Dakhou (high rank irrigator, Dakhou is a Qazvinid term which means guardian of the water)

- Circulation Features: Consist of the paths overlapping on the historic roads with organic shape such as the east-west historic road connecting Tehran and Rasht cities and running through Qazvin's city. This road has an influence on the morphology of the historic city. It changes into an east-west main street in the city center called Rāh-I-Ray (road to Ray, ancient name for Tehran city). Several other local radial paths go through the Gardens and connect the city to other habitations in the region. The second category of the paths consists of new modern roads which are formed without respect to the land pattern of the Gardens and have disintegrated its area such as the new Tehran-Rasht freeway or the problematic Nasim-e-Shomāl (north breeze) road<sup>2</sup> which runs around the southern part of the Gardens.

- Water Features: The furrows and streams that are introduced in the item, 2.1.b and the seasonal rivers that support the flooding irrigation system in the spring

- Structures and Objects: built elements such as well-houses (chāhkhāne) that are made from brick and are surrounded by some shading trees such as berry trees. They exist in each neighborhood and act as a resting

place; and bower-house (āle) made from branches for monitoring the gardens of gardeners or workers (Akhavizadegan, 2002: 94), (Golriz, 2003: 870) (Fig. 2).

3. Human Factors and Management Systems: an integrated hierarchic management system that consists of owners, local trustees, high rank gardeners and Dakhous (high rank irrigators), gardeners and workers (Akhavizadegan, 2002: 59). The ownership system

supports the vernacular gardening and consists of traditional co-ownership like 2 Dāng or 4 Dāng (Dāng is a Persian term for dividing ownership of a land) or Koroomi or Barge I (both local terms for partial ownerships) (Varjavand, 1998: 18). In such ownership close relationship between owners and their consensus on benefits was very important. Such relations have strengthened the social relationship of local communities and the inhabitants of the city.



Fig. 2. Right: well-house (chāhkhāne) made from brick and some shading trees such as a berry tree for the rest of the gardeners. Source: the authors. Left: bower-house (āle) made from branches for the monitoring of the gardens. Photo: Androodi, 2016.

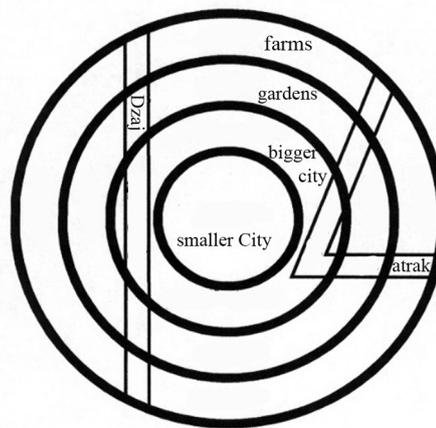
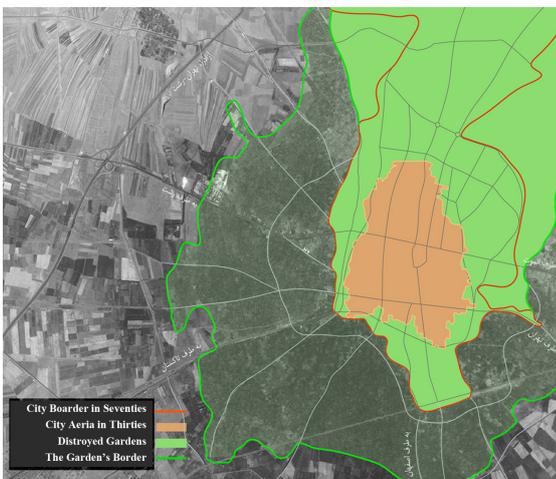


Fig. 3. Right: a sketch of Zakariya' Ibn Muhammad al-Qazwini (1203–1283) from the city of Qazvin in the 12th century. Source: Golriz, 2003: 146, Left: Spatial Organization and Land Pattern of the Cultural Landscape of the Qazvin's Traditional Gardens using the aerial photography in 2000. Source: A redraw on the NCC aerial photograph of the authors.

Study of table 1 shows in conclusion that natural elements and vegetation (water, soil, land topography and vegetation), built elements (spatial organization and land pattern, water feature, circulation feature, structures, and objects), and human factors and management systems (irrigation and gardening methods, management and ownership systems) of the gardens are all linked together and have a cause and effect relationship. That means

they are interdependent and their lives tied together. A Cultural Landscape approach to recording of Qazvin's Traditional Gardens and their features is not limited to records of some historic buildings or old trees and tries to have an integrated approach toward recognition of the interdependent and interconnected built, natural and human characteristics.

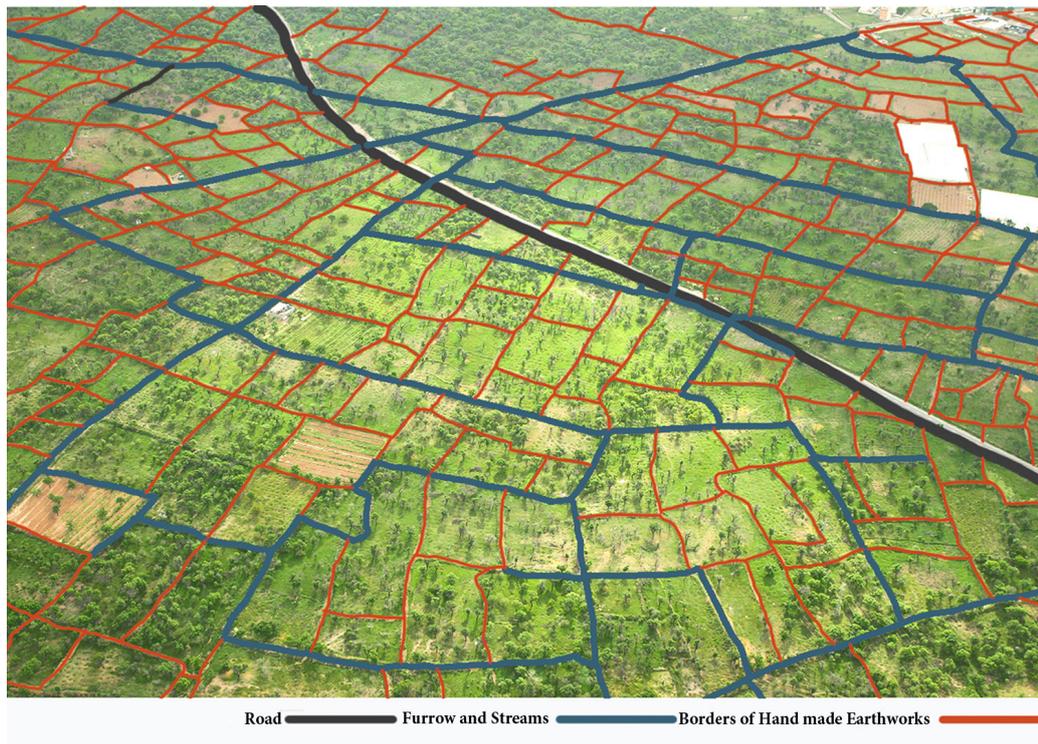


Fig. 4. Land pattern from bird view as organic, non-geometrical network of short earthworks which separate the border of the Gardens. Source: redraw on a photo taken by Erfan Dadkhah for Qazvin's municipality by the authors.

## Conclusion

Cultural Landscape reflects the presence of people and their endeavor to use natural resources specifically to manage water and the notion of culture is enhanced in the interaction between people and their environment. In this research the Qazvin's Traditional Gardens as a registered cultural heritage of Iran is studied with the Cultural Landscape approach. 3 major characteristics of the Gardens such as historical continuity, the interaction of people and the environment specifically for management of water resources and vernacular gardening traditions and features has solidified the status of the Gardens as Historic Vernacular Landscape or Continuing Landscape. This research has studied features and elements of the Gardens based on the categories introduced by WHC and NPS in 3 parts: 1) natural, vegetation and ecologic systems, 2) built (spatial organization and land pattern, irrigation elements, circulation features, water features, structures and features) and 3) human and management systems. As a conclusion, the research has shown that elements and features of Qazvin's Traditional Gardens as Cultural Landscape are strongly connected together with a co-existence situation and are formed directly based on environmental threats and resources. They are combined together as an intelligent system to ensure safety of the Gardens and the continuity of natural resources. Therefore, the whole landscape is like a unified phenomenon consisting of integrated and interconnected parts which could reach to sustainability with the environment during centuries.

Changes in sustainable relation between human and environment with features of modern life have put the gardens and its integrity in danger. Several features are threatened and are weakened by changes in gardening methods, ownerships, expansion of the city, drought, changes of land use, etc. However, the Gardens are considered as national treasures and their traditions have strong roots in Iranian society. The almond and pistachio products such as green sliced pistachio and green Baklava are nationally popular. Several concerns are raised between governmental organizations and authorities as well as owners and NGOs about the Gardens<sup>3</sup>. The gardens are registered as national cultural heritage of Iran and attentions are drawn toward their preservation. This research

Table1. Elements or features of Cultural Landscapes of Qazvin's Traditional Gardens according to the categories of WHC and NPS. Source: authors.

Natural elements and Vegetation	Water		Seasonal rivers of Dezedge (or Bazar) and Zuyar in west and Aranjak in East of Qazvin city.
	Soil		Annual sediment of seasonal rivers with fruitful organic and mineral compounds and water permeability around 20 cm proper for flooding irrigation (Akhavizadegan, 2002: 184).
	Land Topography		High Alborz Mountains which starts 5 KM above the northern Gardens; land with an average slope of 0.5 to 1 percent of north to south, from a height of 1320 to a height of 1270 m (according to the profile taken from Google earth and local survey).
	Vegetation		Pistachio, almond, apricot, cherry and grape trees which are resistant to harsh cold winters and hot summers of the Qazvin region (Beheshti, 2011: 14-15 cited from Akhavizadegan, 2001: 17).
Built Elements	Spatial Organization and Land Pattern	City	A ring of gardens around the city with an average width of 2.5 KM; with the vast destruction in the northern part which expands to east and west and along the modern roads.
		The Gardens	Organic non-geometrical network of short earthworks and furrows that separate the border of the Gardens. Radial clustered streams that are derived from eastern and western seasonal rivers; The Garden's neighborhood consists of the gardens that are irrigated from the same stream and have the same gardeners, Fend or Sāmān (like a district) consists of 4 or 5 neighborhoods, each one has a <i>Dakhou</i> (high rank irrigator, <i>Dakhou</i> is a Qazvinid term meaning guardian of the water) (Akhavizadegan, 2002: 59).
	Water Features	Streams	The streams are derived from the east and west seasonal rivers with clustered radial form.
		Furrows	The furrows that are derived from streams and follow the organic line of the earthworks and direct the water to the Garden's opening.
	Circulation Features	Roads	Local, regional and country roads with two types: The ones superimposing on the historic roads with organic shape; and new modern roads which are formed without respect to the land pattern of the Gardens and have disintegrated its area
		Earthworks	Earthworks with an average height of 1 m and a section of Trapezium which separate the border of the gardens and are used as pedestrian circulation
	Structures and Objects		Well-house ( <i>chāhkhāne</i> ), as a cubic room made from brick surrounded by some shading trees such as berry tree. It acts as the resting place for the gardeners; Bower-house ( <i>āle</i> ) made from branches for monitoring the Gardens (Akhavizadegan, 2002: 94), (Golriz, 2003: 870)
Human factors and management systems	Irrigation Method		An irrigation system called "Takhtāb" or "Qarqāb" which means floating or flooding with water of seasonal rivers in spring (Safipour, 2004: 96).
	Gardening Method		Mixed cultivation of different fruit trees and bushes (such as pistachio, almond, apricot, cherry, grape)
	Management Systems		An integrated hierarchic management system consists of owners, local trustees, high rank gardeners and <i>Dakhou</i> (high rank irrigators), gardeners and workers (Akhavizadegan, 2002: 59).
	Ownership Systems		Traditional co-ownership like 2 Dāng or 4 Dāng (Dāng is a Persian term dividing ownership of a land) or Koroomi or Barge I (both local terms for partial ownerships) (Varjavand, 1998: 18).

has shown that any activity for the preservation of the gardens must consider their interconnected features. Therefore, the features should be revitalized together and as an integrated unified body. The future step of this research is to provide principles and policies for preservation and maintenance of the gardens with reference to worldwide resources such as ICOMOS, WHC and NPS.

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## Endnote

Mirza Sharaf Jahan Qazvini (D. 969) in the era of King Tahmasb Safavid has a ballade which describes Qazvin and endeavors of its gardeners to cultivate pistachio trees and other fruits in the harsh environment of the region (Abrishami 2013 cited from Sharaf Jahan Qazvini, 2004). There are very old pistachio trees in the Gardens called "500 trees" which still gives sweet pistachio with a very green core.

"This road has caused several car accidents and financial losses and casualties during its history" stated by the deputy of Transport and Traffic of Qazvin's municipality (Donyaye Eqtesad Newspaper, 14/07/2010)

For further details please refer to:

[https://fa.wikipedia.org/wiki/باغستانهای\\_سنتی\\_قزوین](https://fa.wikipedia.org/wiki/باغستانهای_سنتی_قزوین)

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