

Original Research Article

## Investigation on Recognition of the Type of Multifunctional Landscape in Persian Garden (Case Study: Akbariyeh World Heritage Garden)\*

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**Abstract** | Multifunctionality is a strategy for developing healthy, biodiversity-friendly, and sustainable productive urban and rural landscapes that have recently attracted the attention of researchers. Multifunctional landscapes simultaneously provide food security, livelihood opportunities, maintain of species and ecological functions, and fulfill cultural, aesthetic recreational needs. The traditional gardens and landscapes usually recognized as multifunctional open spaces. While in Iran, the Persian garden encompassed a wide variety of functions including recreational, productive, habitat, and cultural services, the landscape multifunctionality of the historical gardens has not yet been investigated. In response to this gap, the authors selected the Akbariyeh World Heritage Garden, one of the most significant Persian gardens in the East of Iran, to investigate the features of the multifunctional landscape in this garden. Accordingly, the main question of the research is whether Akbariyeh garden, as a prototype of the traditional historical garden, encompasses a multifunctional landscape? What are the characteristics of the multifunctional landscape in Akbariyeh garden and in which category of multifunctionality is it classified? The research was benefited from the field studies, historical documents, and interviews with experts, as well as holding a discussion group in February 2020. The researchers used the data from the field studies, historical documents, and interviews with experts, as well as holding a discussion group in February 2020.

The results of this study show that Akbariyeh garden can be recognized as a traditional multifunctional landscape. Furthermore, among three main models of landscape multifunctionality (mosaic, weighted, and radical), Akbariyeh garden embraced the weighted multifunctional landscape model (integration several homogeneous functions in the spatial unit).

**Keywords** | *Persian Garden, Akbariyeh World Heritage Garden, Multifunctional landscape, Birjand.*

**Introduction** | To date, many studies have been conducted on the Persian gardens, but one of the aspects of Iran's historical garden that has received less

attention is how different functions are integrated into the garden design system. While traditional gardeners have designed the garden to construct a multipurpose space, this approach is considered today as the

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multifunctional landscape. The traditional approach of Persian gardeners in designing the gardens to fulfill the diverse functions, today is considered and defined as the multifunctional landscape. The multifunctional landscape is an interdisciplinary concept in landscape architecture and urban ecology which means by integrating and combining the different functions in the same location, the ecosystem services of the landscape will be improved (Bomans, Steenberghen, Dewaelheyns, Leinfelder & Gulinck, 2010). A multifunctional landscape potentially or actually provides a diverse range of tangible and intangible services to meet multiple social needs (Riechers, Barkmann & Tschardt, 2016). In this regard, ecosystem services are grouped into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; habitat, such as nutrient cycles and oxygen production; and cultural, such as spiritual and recreational benefits (Meerow & Newell, 2017). Therefore, in a multifunctional landscape, the earth can provide more than one function and at the same time meet several different but homogeneous needs.

Persian garden as a multilayered cultural, historical, and physical phenomenon (Shahcheraghi, 2013, 41) that provides physical, psychological, practical, and economic services, has been studied from various perspectives (Falamaki, 2007). But so far, the issue of multifunctional landscape in the Persian garden has been less addressed. The reason for choosing the Persian garden is that in terms of historical landscape evidence, the gardens of the Islamic period are the historical and traditional exemplar of the multifunctional landscape. Moreover, according to the historical evidence (texts and archeological evidence) the traditional Islamic gardens and landscapes encompassed at least two different functions; ornamental landscaping for recreation, and agricultural landscaping for food production (Ruggles, 2008). Gharipour (2011) examines historical texts and believes that Persian gardens in the Seljuk, Ghaznavid and Timurid periods were used simultaneously for camp, pilgrimage, administrative, and even military, and therefore he explicitly considers the Persian garden as a multifunctional landscape. But since according to previous studies (Brenken, Rode & Von Haaren, 2005; Brandt & Vejre, 2004) multifunctional landscape has different types, it should be examined that the Persian garden corresponds to which type of multifunctional landscape. Also, conducting a case study, and field surveys on a prototype of the Persian garden can give us a better understanding of the multifunctionality in the special context of the Persian garden. The present study by selecting Akbariyeh

garden as a cultural landscape of the World Heritage list attempts to answer these questions:

1. Does Akbariyeh garden encompass the multifunctional landscape?
2. What are the features of multifunctional landscape in Akbariyeh garden?
3. Which type of multifunctional landscape can be discovered in the Akbariyeh garden?

## Research methodology

The research methodology of this historical-descriptive research is the mixed method by combining the case study data, filed surveys, and discussion group.

This research as the historical-descriptive study combined the case study data, filed studies, and discussion group method. Basic research data were collected from library sources, and through interviews with the manager and staffs of Akbariyeh garden. Also, field studies were conducted by the authors in the winter of 2019. In addition, this study explored the physical features of the Akbariyeh garden to determine the spatial characteristics of the multifunctional landscape. The authors collected the data from historical photos, historical maps, on-site mapping, and analysis of the structure of the garden to recognize the multiple functions of the garden over time. Also, the findings extracted from field studies were compared with the new scientific literature to determine the type of multifunctional landscape of the garden. For this purpose, after conducting field studies and discovering the basic findings, an interactive method was used to evaluate the qualitative information. Thus, in February 2020, a group consisting of 10 experts in the field of historical gardens of South Khorasan was formed. The interactive group discussion was guided by the research questions. Thus, the multi-functions of Akbariyeh garden and the choice of its multifunctionality type were discussed. Subsequently, the result of group consensus was finally organized by researchers to answer the research questions. In addition, three in depth interviews were held with the director of the South Khorasan Historical Gardens, director of the Akbariyeh garden World Heritage Site and two other experts in this field to examine other aspects of the issue under investigation.

## Literature review

To date, many studies have been conducted on the Persian garden, but understanding the multifunctional landscape of the garden has been overlooked. A study Khalilnezhad & Tobias (2016) shows that the Persian garden beyond providing beauty and food, is a multifunctional space whose elements and plant systems have multidimensional functions. Gardens as the

valuable property have always had two or more functions, because the garden owners were earning money from the sale of agricultural products (Gharipour, 2011, 139). Ruggles (2008) believes that neither vernacular gardens nor formal gardens were merely places for enjoyment and recreation, and therefore both types of gardens had edible fruits that were harvested to be given to garden staff as a reward or as a gift to servants. From this point of view, the presence of fruit trees, agriculture, and utilitarian gardening in combination with ornamental landscaping can be considered as a sign of the principle of multifunctional landscape in historic gardens. It is because the garden had at least two main functions, the production of fruits and vegetables, and a place for recreation.

Therefore, Iranian landscape architect Mirak Sayyid Ghiyas, who supervised the construction of Timurid gardens was the expert on the science of agronomy, irrigation, and architectural construction. Thus, in traditional landscape architecture, aesthetic considerations and actual productivity were equally valued, and all three areas of expertise were necessary (Ruggles, 2008). Moreover, Etezadi & Bina (2017) demonstrated that there were five types of open spaces in the historical gardens of Birjand. They found that the variety of open spaces had a logical relationship with a variety of functions in the garden. Khalilnezhad & Tobias (2016) by examining the characteristics of the productive landscape in the Persian garden, explored the multifunctional dimensions of the agricultural landscape which were integrated into the historical gardens. Khalilnezhad & Bidokhti (2019) investigated the causes of limited physical access to the edible landscape as the productive part of the formal gardens. They pointed to the issue of the multifunctional landscape of the Persian garden and the reasons for controlling access to fruits of semi-public gardens in Birjand. Based on the last-mentioned study, access to the productive landscape in the private gardens was much easier and faster than semi-public gardens, and therefore the occurrence of various functions in the same garden could affect the details of the garden's landscape design. However, none of the UNESCO World Heritage Persian Gardens has been specifically studied from the viewpoint of multifunctional landscape, and recognition the type of multifunctional landscape of the Persian garden has not yet been recognized.

## Theoretical Foundation

### • The concept of multifunctional landscape

According to the concept of multifunctional landscape, the landscape can be designed for diverse but homogeneous purposes (Dubbeling, 2011). This type

of landscapes can provide different kinds of tangible and intangible products to meet the social requirements (Barkmann, Helming, Müller & Wiggering, 2004). Although some researchers such as Farmer, Chancellor, Robinson, West & Weddell (2014) believe that one of the most important spaces for the distribution of local food products is urban parks, there is historical evidence that shows the gardens around Samarkand as the local food market used to provide agricultural services and contained special platforms to sell the local horticultural products (Gharipour, 2011). On the other hand, according to the participatory landscape approach, if managers and urban policymakers in Iran seek to invite citizens to participate in the management and maintenance of public green spaces, perhaps the best place to measure civic society participation is the Persian gardens. Because even in Europe, those types of green space were selected for the purpose of public participation which are the multifunctional landscape (Colding & Barthel, 2013). In this context multifunctional landscape means a landscape that includes provisioning services, cultural services, regulation services and habitat (Holt, Mears, Maltby & Warren, 2015).

Many of the ecosystem services mentioned in the research literature have been provided in the Persian gardens most formal gardens contained fruit trees and agricultural landscape, which was a traditional example of provisioning services concerning the owner's investment and local community employment. Many gardens, whether private or public (such as Fin and Hezar-jarib) have been the destination of tourists and served as recreational hubs for citizens. Therefore, by examining the ecosystem services of the historical garden, the weaknesses and strengths of the protection and management methods can be discussed. In more detail, those gardens in the past used to be privately owned, and the owners sought to maintain production capacity. Following the substantial changes in the property ownership, the historical garden have regarded as the purely decorative and tourist destination and therefore, the production capacity has substantially been decreased. Following the substantial changes in property ownership, the historical gardens were regarded as a purely decorative and tourist destination and therefore, the production capacity was decreased. Furthermore, the elimination and destruction of historical plants, as valuable plant varieties and genetic resources of the country, can indicate a decline in garden habitat services. Therefore, paying attention to the features of the multifunctional landscape and ecosystem services of traditional green spaces and historical gardens, in addition to the pathology of conservation and

exploitation methods, can also introduce the vernacular pattern of multifunctional green space design.

#### • Types of multifunctional landscape

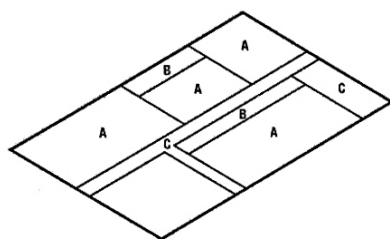
Two groups of European researchers have studied the different types of multifunctional landscapes, both of which introduced three types of spatial typology (Brandt & Vejre, 2004; Brenken et al., 2005). In type one, called the mosaic pattern, multifunctional space is the result of the spatial combination of different single-functional land uses that are physically separated (Figs. 1 & 2). The second type of multifunctional landscape, called weighted multifunctionality, is the result of integrating one or two principal and several secondary functions in the single spatial unit. Unlike the mosaic model, in which each spatial unit is assigned to the single land use, in the weighted model, each spatial unit is assigned to several main and sub-functions, but the activities of their functions and services are separated in terms of time. Therefore, the landscape can provide various functions and services during the day, month, or year. The third type of multifunctional landscape, called radical multifunctionality, all land uses integrated into a single spatial unit. The famous exemplars of the multifunctional landscape in Europe are the agricultural landscape parks, which simultaneously act

as agricultural landscape, recreational resources, and wildlife conservation (Timpe, Cieszewska, Supuka & Toth, 2016).

At first glance, the type of multifunctional landscape in the Persian garden may be recognized as the mosaic type, because the garden space is the result of a geometric and regular combination of open and closed spaces next to each other, and it seems that different single-functional land uses in the garden space are separated. But the meticulous choice between those three mentioned patterns required fulfilling the field study and study of historical and archaeological evidence of the landscape. Therefore, by choosing Akbariyeh garden as the most significant garden located in eastern Iran (due to its registration in the UNESCO World Heritage list), the authors attempted to investigate the multifunctional landscape of the Persian garden and to identify the type of multifunctionality.

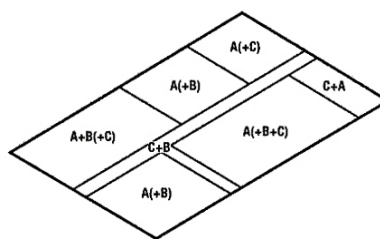
#### • Multifunctional landscape in Brijand's historical gardens

Birjand is a city in the East of Iran, where was the context of the formation and evolution of critical Persian gardens from the 18th to early 20th centuries. Owing to the high strategic position of Birjand in the eastern part of Iran (Dickson, 1924, 37; Wright, 1977, 173), the British opened



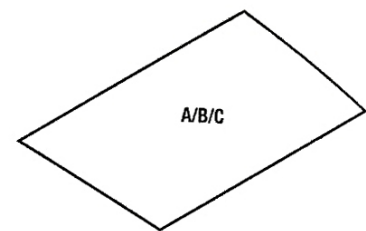
**Type 1: Mosaic**

Pattern of monofunctional areas with separation of conflicting functions



**Type 2: Weighed multifunctionality**

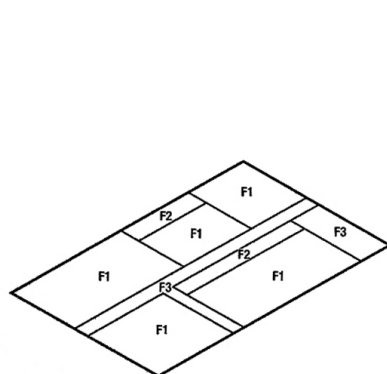
One or two non-conflicting functions dominate other, secondary functions on the same area



**Type 3: Radical multifunctionality**

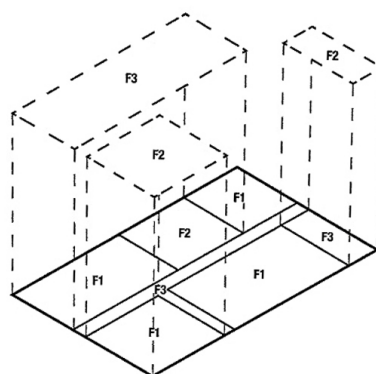
Equal integration of all functions in the same areas

Fig. 1. Types of Multifunctionality at the local scale. Source: Brenken et al. Quoted from Timp et al., 2016, 128.



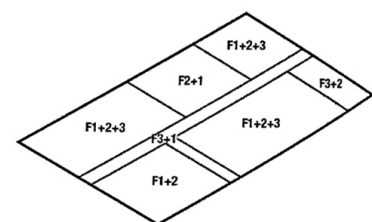
**Type 1: Spatial segregation of functions**

Multifunctionality as a spatial combination of land units with different functions



**Type 2: Time segregation of functions**

Multifunctionality as a different functions on the same land unit, but separated in time



**Type 3: Spatial and chronological integration**

Multifunctionality as the integration of function in the same unit of land at the same time

Fig. 2. Types of Multifunctionality in spatial and chronological levels. Source: Brandt & Vejre, 2004 Quoted from Timp et al., 2016, 128.



a consulate there in 1909 (Wright, 1977, 87), followed by the opening of a Russian Consulate (Mojtahed-Zadeh, 2004). Inevitably, the rulers of the region, Qohestan, also interacted with the offices of the Russian and British governments and, in obedience to Iran's government's orders, sought to protect the territorial integrity as well as the integrity of Iran's eastern border from the beginning of the 20th century (ibid). The leading politician of the region was Mohammad Ibrahim Khan Alam, nicknamed Shokat al-Molk (1880-1943), the father of Asad-Allāh Alam, the prime minister and minister of court in the Pahlavi period.

Notably, from 1909 onward, due to the presence of Russian and British Consular Representatives, in parallel to the intellectual spirit of local rulers, led to taking place the entertainment programs such as Carnival of Happiness, Garden Party, sports (such as tennis, polo, gymnastics, football, horse racing competitions), as well as recreational games such as chess, and the performance of epic plays and music programs in Birjand and its gardens from the beginning of the 20th century (Naseh, 2016). In this city, citadels and gardens were the residence of the broker families, people affiliated with the local government, and foreign chiefs who lived in Birjand.

However, at that time, the city did not have a public park and a promenade. Residents of the southern neighborhoods also walked around the so-called Keshman farmland. In fact, due to the low rainfall, Birjand itself did not have significant public green spaces and nature-based recreation resources. Therefore, in addition to the inner city gardens, the rulers, due to the lack of other recreational green infrastructure, preferred to have private gardens in the rural areas around the Birajnd. Moreover, the rulers and the officials, and also the general public of the middle-class citizens preferred villages and rural gardens as the places of outdoor recreation.

In addition to Shokat al-Molk, other local and regional rulers of the South Khorasan region tried to develop the Persian gardens and were welcomed personage guests in these traditional green spaces. For example, Ali Akbar Khan Hesam al-Dola welcomed the British colonel in Haji Abad Garden (ibid). Amir Ismail Khan, the ruler of Qaenat (deceased 1905), established the Shokatabad Garden. Amirabad Garden, with its octagonal citadel, has been the residence of Amir Alam Khan and was a symbol of the manifestation of his glory. Furthermore, Amir Asadollah Khan "Hesam ad-Doleh I" established the Bagh-e Amir garden in Tabas, and Amir Masum Khan Heshmat al-Molk III established the garden of Masumiyeh in the West of Birjand and Amirabad garden in Zirkuh (Mojtahed-Zadeh, 1993).

Establishing the gardens, both agricultural and formal, in foothill villages and valley oases locating around Birjand periphery, demonstrates the importance of access to the water and preferred gentle weather characteristics in developing the garden as the edible landscape in East of Iran. Reasonably, General Goldsmid (1876), the British arbitrator of Sistan boundaries, described Birjand at the end of the 19th century as a city surrounded by gardens, and encompassed the agricultural fields. In addition to recreational opportunities, the possibility of agricultural beneficiaries through planting, growing, and harvesting fruits such as berries, apricots, peaches, plums, walnuts and pears were the most substantial, incentives for the development of the Persian gardens in Birjand and its periphery. In general, the gardens of the Qohestan territory should be considered a multifunctional space for conducting governmental, recreational, and agricultural affairs.

#### • Akbariyeh garden

Among nine Persian gardens that were registered in the UNESCO World Heritage List in 2011, the most significant historical garden in the East of Iran is the Akbariyeh garden (Fig. 3) 3.4 hectares that was established by a highly notable ruler of the East of Iran,



Fig. 3. Aerial photo of Akbariyeh garden in the first Pahlavi period, adjacent to the agricultural landscape on the north side and Akbariyeh village on the south side of the garden. Source: Archive of the Akbariyeh World Heritage Site.

known Heshmat al-Molk I (deceased 1891) who had been appointed the official governorship of Sistan by Naser al-Din Shah Qajar (King of Persian during 1848-1896) in 1880 (Mojtahed-Zadeh, 1993). As mentioned previously, Amir Shokat al-Molk as the governor of Qohestan and Sistan, selected the Akbariyeh garden as the official ruling headquarters in about in the early twentieth century. The garden belonged to the Alam family and based on Asad-Allah Alam's will, after his death, it was transformed to the Museum in 1976.

Mr. Hale, chairman of the British Royal Bank in Birjand, having observed the administrative and judiciary proceedings of the office of Amir in 1913, described it in the following terms: "Generally he sits in his office at one end of a big garden, and talks to priests and merchants, and landowners and officials, and village headmen and tribal leaders" (Hale, 1920, 21). Thus, besides construction the qanats, citadels, forts, and religious schools the regional rulers was establishing the gardens (Mojtahed-Zadeh, 1993).

The Akbariyeh garden, as the Qohestan Governmental House, was the venue for the celebrations and feasts

of lunch and dinner with the presence of domestic and foreign guests in the late Qajar period. In fact, in addition to being the Amir's domicile, the Akbariyeh garden has been a place for reception, meeting, and negotiation with foreign consulates between the late Qajar and the second Pahlavi period. Therefore, its particular facilities and functional applications have been adapted for multifunctional purposes. For instance, and as a special case, next to the Akbariyeh garden, there was a tennis court that, in which Shokat al-Molk played tennis.

## Results

### • Multifunctional landscape of Akbariyeh garden

The study on Akbariyeh garden shows that the landscape of the garden can be divided into different zones such as residential, governmental, recreational, and agricultural zones. Thus, this garden has multiple provisioning, cultural, regulation, and habitat functions (Fig. 4). The most important and widest part of the garden is the productive landscape zone. Therefore, for more precise expression, multiple garden functions are presented in the form of four functions.

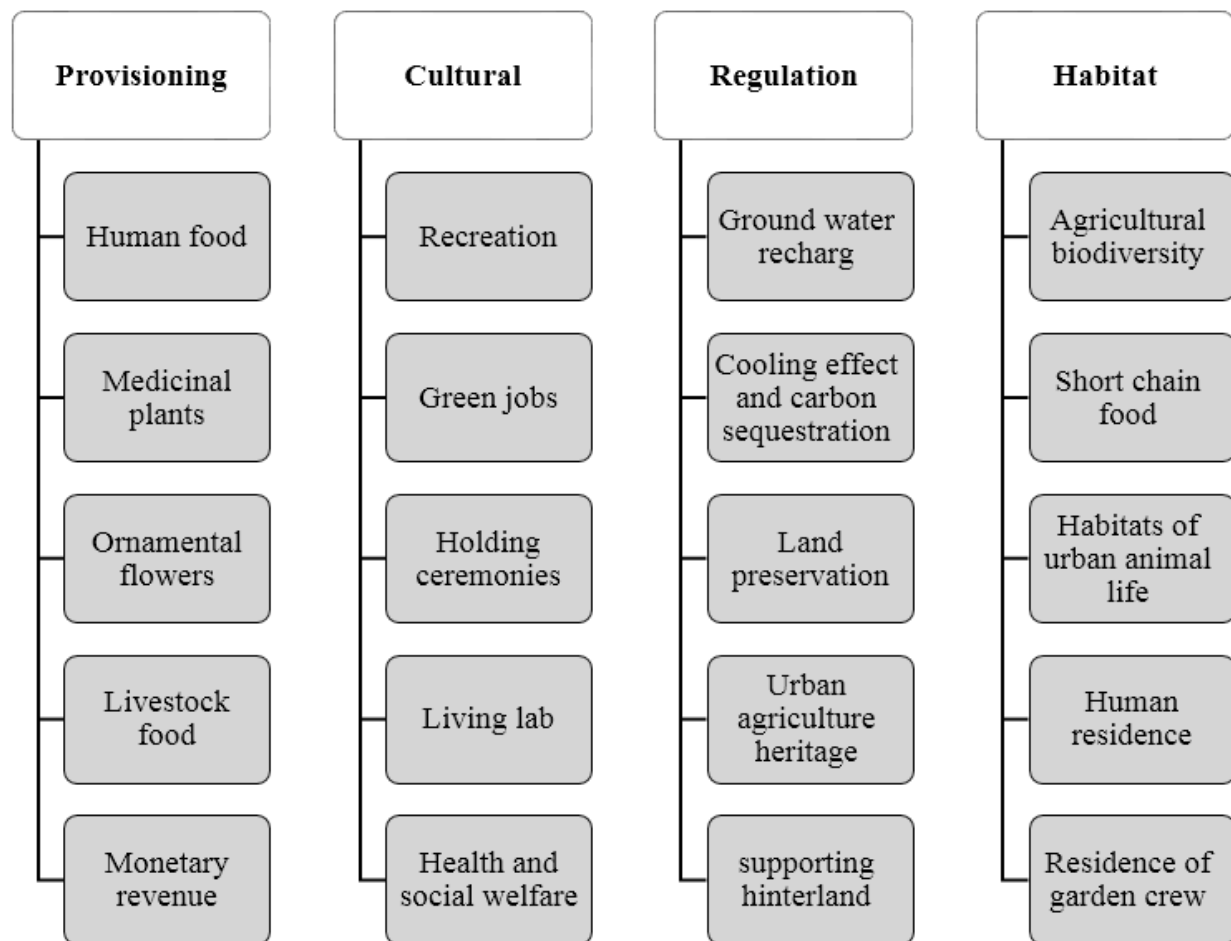


Fig. 4. Ecosystem services of Akbariyeh garden. Source: Authors.

### • Provisioning function

Examples of landscape provisioning services are food production and also the investment and employment in agriculture and horticulture (La Rosa, Barbarossa, Privitera & Martinico, 2014). Most of the land of this garden, which has an area of about 3.5 hectares, was dedicated to food landscaping. In addition to the main courtyard of the garden, the private yard contains some mulberry trees. The garden space was arranged in such a way that besides the wall of the garden, pomegranate, fig, and mulberry trees were planted which functioned as food producers as well as the green walls to prevent foreigners from entering the plot and garden space. Even summer crops, which have less resistance to environmental stresses, were planted in the middle of the food-production plots. In addition to the garden production plots, at the end of the garden, there were two seasonal plots (kitchen garden) and between these two plots, there was a greenhouse, which shows that in addition to food products, flowers and ornamental plants (for planting in the garden or giving to friends and ambassadors) were also produced. The mulberry tree has been used extensively along the inner path along the garden wall. This tree creates a good shade for the sidewalk and acts as a shading canopy. At the same time, its produced fruits had both a reception aspect for people and guests who come to the garden for sightseeing in summer, and its dried fruit was consumed as a hobby food in winter. Pomegranate trees had also been planted to supply autumn fruits and produce sauce. Rose flower was used along the side paths and the entire path around the garden, which in addition to visual properties, was used in the production of local perfumes.

### • Cultural function

For cultural services, the garden was both a tourist destination and a natural laboratory where people could learn traditional agricultural sciences. Promoting health and well-being through horticultural activities and its healing effect on the health of both body and soul is also part of the cultural function of the garden (Ioja, Grădinaru, Onose, Vânău & Tudor, 2014). Akbariyeh garden was first designed as the seasonal residential space. However, the changes in the garden during the Qajar period, such as inclusion of the decorative landscape, indicate the change of the garden from the residential to the government-ceremonial garden. The most significant of these changes is planting the pine trees along the main axis of the garden to reinforce the decorative landscape of the garden in the late Qajar era. The peak of the cultural flourishing of the garden was in the late Qajar to the end of the first Pahlavi, which as a court garden could accommodate as the venue of the different ceremonial events. Shokat al-Molk held

ceremonial parties with rulers, ministers, and doctors in the garden. Amir Shokat al-Molk had friendships with both Russian and British agents, and in the days of the prosperity of Qaenat, every European who passed through Birjand, due to limited urban facilities, had to stay in Akbariyeh garden during his stay. Therefore, Akbariyeh was the place of celebrations and banquets for lunch and dinner with the presence of domestic and foreign guests in the late Qajar period (Naseh, 2016, 158). Therefore, the spatial facilities of the garden and its surrounding areas were different from other rural or vernacular gardens. For example, there was a tennis court in adjacent to the garden where Shokat al-Molk played tennis (ibid, 290). In addition to the cultural function of the garden on a large scale (city scale), it had also small-scale cultural services. Gardening education of the old gardeners to the children and the next generation of gardeners was part of the cultural functions of the garden (Fig. 5).

Other cultural service of the Akbariyeh garden was establishing the temporal ritual and symbolic landscape. Holding religious and national ceremonies of joy and mourning throughout the year, in addition to providing a space for holding ceremonies and gatherings of people, promoted the role of the garden as a ritual and symbolic landscape. Therefore, as shown in Fig. 5, the open space in front of the garden mansion was a place to set up ceremonial tents and presented a different spirit of the garden as a ritual landscape. The presence of mourning processions in the month of Muharram, on a platform located in the middle of the pool in the backyard of the mansion, and the celebration of mid-Sha'ban are examples of the cultural performance of the Akbariyeh garden as the ritual landscape.

### • Regulation function

Landscape regulation services include improving natural resource productivity (through maintaining soil fertility and pollination), reducing the effects of climate change (through the impact of agricultural areas on environmental cooling and soil carbon storage and deposition), water management (groundwater replenishment), and the protection of land and soil, by reducing soil erosion and preventing land fragmentation (Schägnier, Brander, Maes & Hartje, 2013). Akbariyeh garden acts as the filtering oasis (creating moisture and shade) to provide a moderate living space in the arid region of Birjand along with other functions. In addition, from the beginning period of the formation of the garden, in addition to irrigating the garden itself, its water has been used to make the lands around the garden green in the form of agricultural fields. Thus, plant and animal life outside the walls of the garden also depended on the Akbariyeh garden and its life. Furthermore, the life of Akbariyeh village, as a village adjacent to





Fig. 5. Multiple performances of the garden in holding official celebrations (a and b), production of flowers and ornamental plants in the gardens greenhouse (c), tennis court adjacent to the garden (d) accommodating the foreigner staff and officials (e). Source: Archive of the Akbariyeh World Heritage Site.

the garden, has depended on the biological life of the garden. It is because in addition to moderating the air of Akbariyeh village and providing part of the food of the rural community, it was the only permanent green oasis. In recent periods and after the Islamic Revolution, despite the change of urban land uses around the garden and the destruction of the agricultural landscape, Akbariyeh garden has retained its traditional form and its regulation function in absorbing rainwater into the soil and creating habitat microclimate in the urban context.

#### • Habitat function

Landscape habitat services include conservation benefits (such as agrobiodiversity and habitat conservation) low-carbon and low-energy transportation, and the short-chain food cycles due to the proximity of the production and consumption sites to each other (Rubino & Hess, 2003). Accordingly, another function of the garden was habitat (environmental) services including preserving the native agricultural varieties, and protection of the urban agricultural heritage. Low carbon transportation due to the proximity of the garden (production site) to Akbariyeh village and its proximity to the city of Birjand (consumption site) shortened the food cycle and

reduced transportation energy consumption. Planting medicinal and ornamental plants, in addition to provisioning services, had habitat functions concerning the preservation of native genetic species. Some of the varieties of fruit trees such as pistachio and apricot were part of the region's genetic resources (Safaei, 2019). During the long decades since its construction, the space organization and open and closed relations in this garden have not changed and although the volume of green space has decreased in some periods, the use of garden lands has been preserved, and therefore it is always possible to revive the garden landscape. Therefore, in addition to the importance of the garden as a historical-tourism space, emphasizing the role of its environment in shortening the food chain, preserving the remains of native plant varieties and genetic resources, low carbon food production, and low carbon agricultural habitat can enhance the habitat services of the garden.

#### • Residential function

Akbariyeh garden had always a residential function (Fig. 6). In addition to the residence of its original owner during different periods, it has also accommodated the special guests. Furthermore, crew, guards, and gardeners lived in the garden. But in the second Pahlavi period, the garden



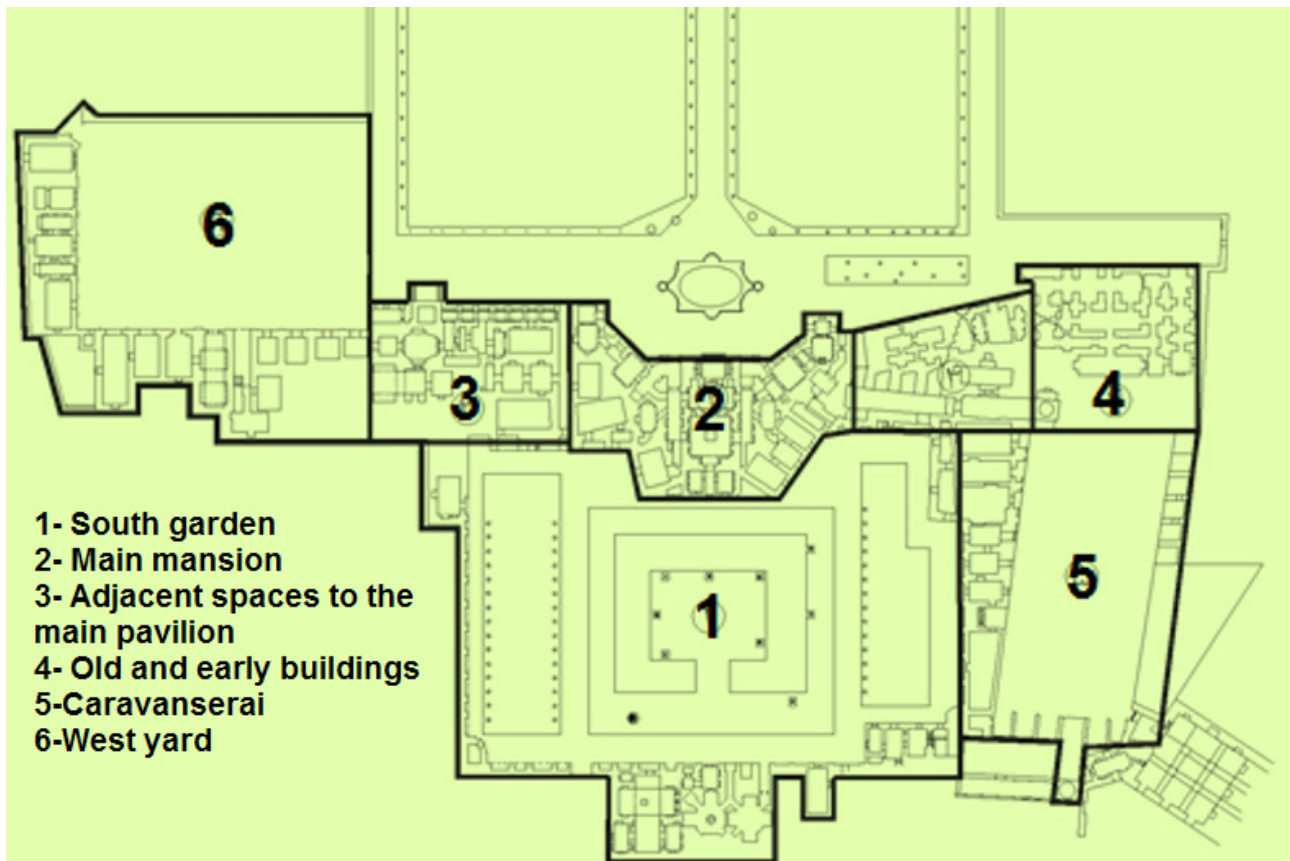


Fig. 6. Residential functions in the several buildings of the Akbariyeh garden. Source: Archive of the Akbariyeh World Heritage Site.

only had the reception function. It is because of part-time residence of Mohammad Reza Pahlavi in this garden that limited the public traffic to the garden. Thus during the second Pahlavi period the public recreational services of the garden was extremely limited (Jannatifar, 2019). In the Post Islamic revolution period, many residential spaces were used as offices and museums, thus, the garden has been preserved as the human dwelling space, whether in the form of family and aristocratic residence, or in the form of a ceremonial and formal residence, or in the form of a work and management space.

### Identifying the type of multifunctional landscape of Akbariyeh garden

Akbariyeh garden in the late Qajar to the first Pahlavi period was a government-court garden, thus governance affairs of the Qohestan region were handled in this garden. In addition, several families were dependent on the garden for employment in the service, agriculture, and horticulture sectors. Jannatifar (2019), the director of the Akbariyeh World Heritage Site, believes that the main function of the garden was to provide the food. He believes if the garden did not the monetary revenues, it would not have survived throughout history. The second function of the garden was the regional official court. Of course, over time, some functions have taken precedence

over others. For example, in the second Pahlavi period, the security function of the garden to accommodate the second Pahlavi king reduced its public recreational function. Also, the residential dimension of the garden has been discussed from the end of Qajar to the time of the Islamic Revolution. Therefore, on a temporal and spatial scale, the garden encompassed four functions: residential, production, official, and recreational services. In addition, the garden had some other public functions. For example, the bath of the garden could be used by the residents of Akbariyeh village (Soleimani, 2019). In some days of the year, the official section has had floating functions such as holding celebrations, parties for consulates, garden parties, holding birthday parties for the Pahlavi family, and even holding mourning ceremonies (Naddaf Moghaddam, 2019). But what is important in this regard is to identify the type of multifunctional landscape in Akbariyeh garden. As Fig. 7 shows, the various spaces of Akbariyeh garden were separated from each other that shows the mosaic multifunctional pattern. But since in each zone of this garden, including residential, official, agricultural, and recreational zones, one of the functions has always been more prominent and over time, other secondary and floating functions have been integrated. Thus, the type of multifunctional landscape of Akbariyeh garden can

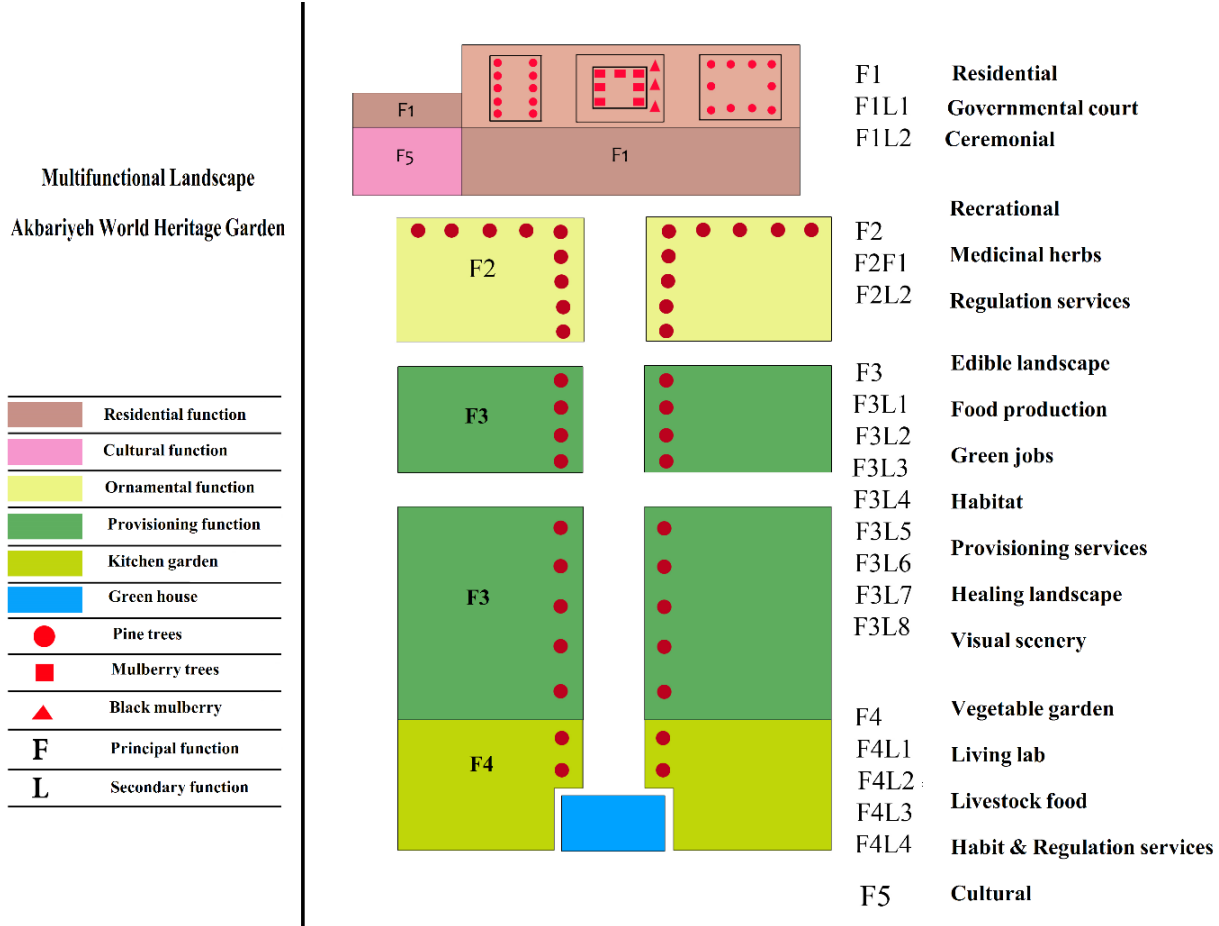


Fig. 7. Map of multifunctional landscape of Akbariyeh garden. Source: Authors.







be considered weighted multifunctionality. According to this multifunctionality, each garden zone has a fixed and stable function, but in accordance with the time and local and regional developments, other secondary and floating functions have also been integrated into the zone.

## Conclusion

According to the finding of this research traditional Iranian landscape architects sought to design the multi-purpose open space that at the same time, provided recreational greenery, had the economic revenues as well as produced the food staff. Even the agricultural part of the Persian garden, in addition to provisioning services, possesses habitat, cultural, and regulation services. Regarding the main question of this study whether Akbariyeh World Heritage garden encompassed a multifunctional landscape, the answer is yes. Due to political relations of the Alam family with the foreign ambassadors in Birjand, and

consequently holding parties, celebrations, and garden parties, the local rulers required the official open spaces to hold such ceremonies. On the other hand, the lack of urban facilities and green infrastructure caused the design of the Akbariyeh garden to embrace the multiple functions to offer the cultural, economic, production, employment, habitat, and regulation services. Therefore, Akbariyeh garden can be introduced as the multifunctional landscape. However, regarding the typology of the multifunctionality, it should be noted that the Akbariyeh garden possessed the weighted multifunctionality landscape which means that homogeneous land uses without spatial interference were integrated into the unit of land. Accordingly, in each spatial unit, there were the fixed primary function and several secondary functions. Fig. 8 shows the Akbariyeh garden in accordance with the weighted multifunctionality pattern which is divided into different zones, and each spatial zone has several homogeneous functions.

### Multifunctional Landscape Akbariyeh World Heritage Garden

	A	Residential
		Cultural
		Ornamental
		Agricultural
		Kitchen garden
		Green house
B		Governmental venue
C		Ceremonial venue
D		Provisioning services
E		Cultural services
F		Regulation services
G		Habitat
Y		Sport court

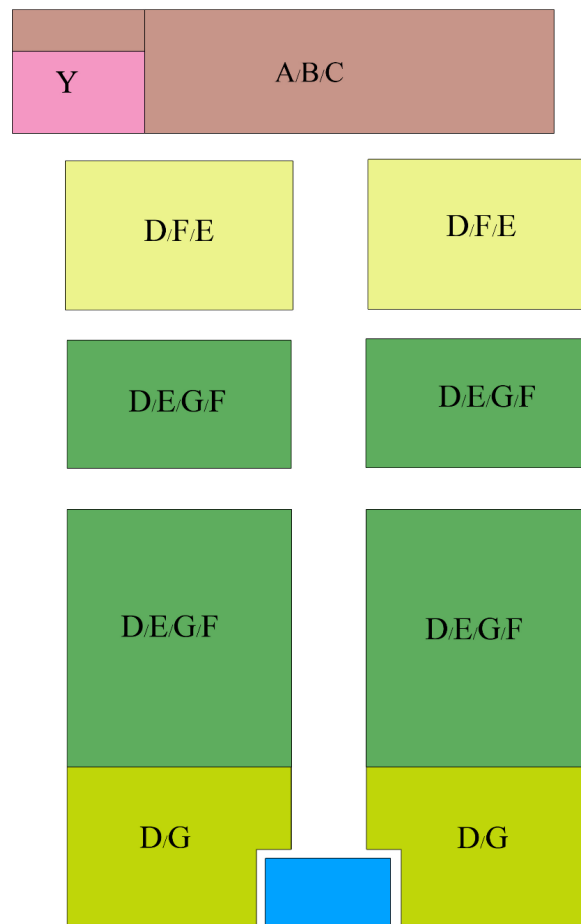


Fig. 8. Matching the multifunctional landscape of Akbariyeh garden with the type of weighted multifunctionality. Source: Authors.

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## Endnotes

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