REVITALIZATION OF HISTORICAL LANDSCAPE OF BAMPOUR

Fereshteh RAHDAR,*, H. Irani BEHBAHANI, B. BAHRAMI

1Department of Environmental Sciences, MSc of Science in Environmental Engineering Design, university of Tehran, Tehran, Iran
2Department of Environment, Associate professor, university of Tehran, Tehran, Iran
3Department of Environment, Assistant professor, university of Tehran, Tehran, Iran

Received: 22.03.2015; Accepted: 29.05.2015

Abstract. People are beginning looking to change their environment in order to make optimum use of it. Persian gardens glowing example of the human ability to promote environmental resilience and their habitations. Formation of these Gardens during on the structures made a combination of art and the engineering of Iranians that are now a valuable part of the historical heritage of this land is considered. In This research a khaleseh Persian garden that located in Castel twenty-five kilometers from the city of Iranshahr in Sistan and Baluchestan province belonging to the late Qajar period, has been studied. The leading research indicates that the unique Persian garden in this zone with economic and the residential nature was source for the cereal crops storage. This garden after the drought and destroyed other khaleseh gardens around it, lost its importance are now a ruin, that Due to the invasion of the sand and sabulous into the garden, every day destruction process of the natural structure becomes more. Although the garden buildings have been repaired, but according to the Florence charter that required the restoration of the Heritage and context knows coexisting and according continuity of the natural structures and historic buildings garden, restoration cannot be separated from the garden. The methodology of this study with regard to the authenticity and integrity that are the most important principles of the revitalization heritage, Documentation landscape garden and its changes with the study and compare of historical documents, historical photos, maps and aerial photos and travel journals in order to reconstruct the original garden plan has been that has to be provided context to revitalization of the valuable Heritage that is only Persian Garden remains in Baluchestan province.

Keywords: Persian gardens, khaleseh Persian garden, continuity, revitalization, Florence charter

INTRODUCTION

Most cities of developing countries, like Iran, nowadays have faced with some issues such as Rapid population growth, violent Pressure from urban development, increasing the area of historical districts and destruction of cultural heritage [1]. Preserving the Historical urban areas and traditional landscape is preserving and revival of architectural heritage or in one sense, preserving the culture [2]. Traditional landscape are the most important for showing the past life style, the lack of recognition and appreciation of these buildings on the part of authorities, and the public too, will gradually lead to their destruction and replacement by contemporary buildings [3]. Historical studies and archaeological research should always be examined before repairing every building. Then, the disruptive factors must be recorded and understood for effective preserve and, next, the potential of repair interventions should be examined [4]. Two notes are of great importance in repair process: firstly, preserve and revival of a historical landscape is successful when the materials and methods for repair are similar to that of original construction [5]. Proposed repairs that are reversible and do not cause damage to important fabric if they have to be removed [6].

* Corresponding author. E-mail: m.rahdar91@ut.ac.ir

Special Issue: Technological Advances of Engineering Sciences

http://dergi.cumhuriyet.edu.tr/ojs/index.php/fenbilimleri ©2015 Faculty of Science, Cumhuriyet University
MATERIALS AND METHODS

Iranians used various techniques during the time to capture different aspects of life and their beliefs, including: painting pottery bowls, miniature paintings, poems and literature, carpets designing, etc. [7]. accordingly there are valuable and different resources to identify Persian gardens and different people with different attitudes and even with the same attitude and different sources have been provided different plans, for example Donald Wilber has outlined part of the Shah Ashraf garden plans in Behshahr’s based on historical writings, old photographs, portraits, tourism’s descriptions and his objective inferences and impressions, and also Mahvash Alami has been rebuilt the writings and images of garden travelers plan based on the study of archival documents and has been rebuilt the different areas’ plan status [8] and Mansouri quo according to combination of these data and field conclusion and itinerary and objective inferences and impressions [9]. David Stronach Scottish archaeologist also with speculation and extract evidence from archaeological discoveries has provided evidence for the environmental restoration of historic gardens [10].

In this study the documentation of garden landscape and its changes have been done by Historical-analysis method with study and comparing of historical documents, historical photos, maps and aerial photos and itineraries and Preparation Inventory of layer of garden [11], in order to revitalization the original plan of garden with Considering all history layers At the same time Without giving priority one layer over another [12].

Revitalization of master plan of this garden was done in 5 steps (table.1).

Table 1. Steps of Revitalization of master plan of khaleseh garden.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection Historical documents and scope observations</td>
<td>Historical-analysis and Preparation of library document and Inventory of different layer of garden</td>
<td>revitalization of architectural system, composition, vegetative coverage system, system of water circulation plans</td>
<td>Overlay the extractive maps layers</td>
<td>Revitalization of master plan in Qajar period</td>
</tr>
</tbody>
</table>

The stratigraphy method of library document reading including: travelogues and itineraries, photos and aerial maps and historical photographs were used in this research and the data and information were analyzed and compared by means of file conclusion and survey. Because cultural landscapes especially Persian garden are linked with their surrounding context and do not have definable boundaries, the studies are conducted at scales of landscape, first across the Bampur landscape area and then at the range of domain garden landscape.

For as much as historical landscapes and particularly Persian gardens have no clear and definitional border and are associated with their surrounding context. There are other valuable historical gardens in addition to domain Bampour garden that need to repair and protection and are introduced in this research.

RESULTS

Feature and ecological structure of bampour

The city of Iranshahr located in Sistan and Baluchestan Province (Fig. 1) is one of the cities that have built many castles in it. Primary and ancient name of Iranshahr was «Pahreh». Pahreh is meant to protect that perhaps naming it; because of this area has protective role as the center of the Baluchistan government in the period of Qajar. Bampour center of Iranshahr has long been headquarters of military And Qajar were monitored from this point on all Baluchestan [13].
Figure 1. Geographical location of the Bampour.

Iran in the past, due to the special geographical location between the «Mesopotamia» plains in Turkey and «Sand-Panjab» plains in India was such as the interface country that different ethnic groups for access the West and the East have to pass it. Bampour located in context of plain that from three directions of the North, East and South, is surrounded by mountains and from west ends to Jazmoryan.

Most of vegetation in this area is farm fields with Sparse pasture cover. Bampour irrigation system is consisted of two water streams nourishing the skirt and the bank of Bampour plain’s underground water tables which are coalesced in the south of Iranshahr and form Bampour River [14, 15].

This plain does not have any restrictions of soil resources quality in terms of soil science and it is especially used in agriculture in the outskirts of Bampour. Mirza Mehdi Khan, Brigade Ghaeni, in 1864, wrote about Bampur dam and cultivation: “Its water is from a valid river which flows from the east side of Bampour and every year the vassals make dams using forest wood, entered water into the curbs for cultivation, irrigate their cultivation and this river’s source origin is a spring emerging in a place about 19000 kilometers around Bampour” [16].

Inventory of garden layers According to historical documents
According to the Charter of Florence, first step in the historical revitalization is Identification and Documentation of them. For this purpose studies Identification of this garden by examining the historical documents in the framework of Following Inventory Were collected:

1) Totality of khaleseh Persian garden
2) Disciplines of garden- Current situation
3) Disciplines of garden- reference landscape (early Pahlavi)
4) Architecture discipline garden
5) Discipline of Vegetation of garden
6) Circulation of water system in the garden

Totality of khaleseh Persian garden
The garden is located in a wide plain and has visual communication with the castle and the ancient hills nearby (fig.2). This is in a way that the north axis of its summerhouse joins the city and these ancient hills and the castle is seen through the summerhouses’ windows. Generally speaking it could be said that this garden joins the city and the castle; the castle which is considered to be a collective memory in the beliefs of the local people and is sacred. It seems that one of the formation reasons of the garden was to provide the mystical hierarchy to reach the castle. In addition to the visual communication of the garden with the outside, in the inside the street systems are in a way that, from different angels, they end to the garden pond.
Revitalization of Historical Landscape of Bampour

Figure 2. Aerial map of location khaleseh garden than Castles and ancient hill, [17].

The garden belongs to the time of Nasseraddin Shah Qajar, and the first known as the Pure Land (belong to state) and the state-owned and is under the supervision of cultural heritage. Currently has state ownership and is under the supervision of cultural heritage. This garden underwent a lot of damage because the garden owner, who was of high status among the people of the region, was involved in a scandal which led him to leave the garden.

**Disciplines of garden- Current situation**

This garden has undergone extensive damages over time, but recently some repair operations, including repairing the main summerhouses, the barn and the garden wall have started. The garden buildings are fully available but some of them have undergone severe damages (fig.3). The garden vegetation has undergone severe damages in a way that only a few Ziziphus trees are left (fig. 4).

Figure 3. Quo situation of garden Vegetation.  
Figure 4. Quo situation of Garden buildings

The garden bed has been buried under the attack of sans and there is a little aura of the garden design available. The composition of the present situation of the garden has been traced using satellite image in 2014 (fig.5).

Figure 5. Revitalization plan of garden according to aerial photograph of Google earth in year 2015.
Disciplines of garden-reference landscape (early Pahlavi)

The original garden was built in a piece of land of 77,470 square meters in the southeastern side of Bampour castle and a 5.2-meter-high wall surrounded the garden. Revitalization of The garden composition was traced in Qajar period (fig.8), 1966 (fig.9), 1994 (fig.10), 1999 (fig.6) and 2002 (fig.7).

By studying and analysis of the aerial and historical pictures in $1345 \cdot 1373 \cdot 1378 \cdot 1381 \cdot 1393$, and overly revitalization plan of all years, master Composition plan of garden was revitalization at the beginning of Qajar period (fig 11).
Revitalization of Historical Landscape of Bampour

Architecture discipline garden

The architecture of the garden buildings is a combination of the region’s vernacular architecture and is dedicated to Bampour city. In this research, the segments and plans of the garden’s architectural buildings are sketched by field trips and the garden’s nationally registered information. The two main pavilion plans, with dimensions of $14.5 \times 12.8$ and with a terrace of 30 centimeter width in the east and south sides and the half of the west side of the pavilion, are the same (fig.12), with this difference that the northern summerhouse does not have a wind funnel (fig.13) but the southern summerhouse plan has two wind funnels and a basement and a cistern (fig.14). Every pavilion has four doors and four windows which are completely symmetrical and the air flow is completely felt in the pavilion.

Bampour ancient castle view is seen through the windows facing the north, and the garden’s beautiful scenery is seen from the east, west and south windows. Based on the obtained research, the gentry, including the region’s leaders and their affiliates, lived in this garden. The garden’s barn, with dimensions of $23.35 \times 44.60$ square meters, has six storehouses and a big room with beautiful pillars, Chevron arches and dome ceilings (fig.15). There are 5 rooms in its eastern part which belonged to the garden workers.
There is also a room of $7.4 \times 5.5$, ten meters of the south part which belonged to the garden workers place (fig. 16) and the toilets are located 10 meters from the north east of the garden’s south pavilion (fig. 17).

Thus, in this research, based on the historical documents, scope observations and the remaining works in the garden, the garden’s architectural plan was revitalization (fig. 18).

Discipline of Vegetation of garden

As this garden had been in the outdoors and for food supply, its layout and vegetation did not have a special order. According to Farmanfarma Travel Literature, Colonel Soleiman Khan of the tropical troops, built a wall around it and designed its layout at the end of Qajar period. The complete vegetation destruction and being covered by sand have made it difficult to identify and renovate the vegetation in the garden. In this research, in order to recreate the vegetation, library studies such as travel literature,
manuscripts, and aerial and historical photos of the garden have been used. The used information from library resources in order to renovate the vegetation is as follows:

Farmanfarma, in 1918, writes about it: “My tent is located in the middle of the garden, it had palm trees and several bitter orange trees which have been recently planted, and it has fig and Cordia trees as well. Its Cordia is very ancient; its Ziziphus tree, twice the size of the huge Juglans trees, is full of fruit. This garden which is green from wheat, barley and alfalfa cultivation, is not devoid of freshness and purity” [18]. Next in this period, because of frost damage, most of the fruit trees were destroyed and some of the palm trees were destroyed too and were planted again. In the eighteenth century, Bampour plain gardens were completely ruined as a result of local unrest and invasion of invading tribes [19]. Alta-ol-Molk who had also visited this garden writes as follows: “In Bampur, we settled in Haji Suleiman Khan Bahjat al-Dawla’s house (he himself was on a pilgrimage trip). It is a good place, it has a delightful garden; some young and old palm trees have been planted here and there. It is said that the palm trees have been severely frost damaged and become green again. All the citrus trees are frost damaged, only a few has remained. It has water too” [20].

In 1958 and after the frost damage and the destruction of the trees, the farmers planted the palms again [21]. According to the documents and a few present trees, it is determined that in this garden and around the streets, palm and Ziziphus trees and around the garden fence, mesquite and tamarisk trees had been planted as windbreakers (fig 19 & 20) And the middle was specified to the cultivation of wheat and alfalfa and other agricultural commodities.

The investigation of the aerial photos from 1966 until now and also the garden’s historical photo shows that in 1966 most of the garden’s arboriculture existed irregularly among the plots and regularly in some of the garden’s main axes and some northern parts of the garden were also barren but from 1991 afterwards, most of the garden has been specified to wheat and barley cultivation along with regular row vegetation on the axes and margins of the garden with a few fruit trees on the radial plots of the south of the garden. The row of Ziziphus, palm and tamarisk trees were left in 1999. Now they are destroyed too and only a few Ziziphus and tamarisk trees are left (fig.21 & 22).
From the travel literature, it was determined that after building the walls and designing the garden layout during Qajar period, the vegetation underwent a lot of changes, but it is possible to consider the dominant vegetation in the garden a combination of palm, Ziziphus, Cordia, fig and bitter orange; and wheat, barley and alfalfa had been planted among them.

According to stories, travel literature, photos NO. 20 to 23, there were tamarisk and mesquite trees as windbreakers and microclimate; and along the routes and the main axis of the garden there were some Ziziphus and palm trees. Considering the historical documentation revitalization of vegetation plan is done (fig.23).

Circulation of water system in the garden

The irrigation system was the furrow method or curbs which were available all around the garden and until 1999 there was water flow in them (fig.24). In the renovated plan, in the past, the major water of this garden was provided from a branch of Bampour River (garden waterway), the water entered from the north east part from this waterway and then it was distributed in the garden by the curbs and after the irrigating the garden, the remaining excess water went out of the garden and all these streams were available until 2001 but there was no water flowing in them. Now these streams are disappeared under a pile of sand but the garden pond has been found in the Cultural Heritage excavations (fig.25). There is also water well in the garden (fig.26) which has been built from around 2001 to 2006, but it is dried now.
According to studies of aerial photos, field understanding and the garden’s national register report, the only pond available in the garden is the circular pond near the main pavilion, also the garden’s water well was built in the garden during 2001-2006 due to drought and Bampour River’s lack of water. According to documents mentioned plan of circulation water system in the garden was revitalization (fig.27).

**CONCLUSIONS**

Historical revitalization of this Garden, begun with study of its natural and cultural context. Studies and Environmental analysis in macro scale of historical perspective of Bampour city indicates that factors such as fertile land, existence of permanent river, perching on east and west pathway, being surrounded by mountains from three Northern directions, east and south which caused the development of Microclimate in this area have provided an appropriate bed for forming the first ancient habitats in ancient hills of this area. Forming of these habitats according to the political-security conditions of the area during the time necessitated the development of Bampour castle and after formation of castle and its determination as predomination center of Baluchistan, gardens and plantations have generated for the sake of ways and means of people in castle and area. From the travel literature, it was determined that after building the walls and designing the garden layout during Qajar period, the vegetation underwent a lot of changes, but it is possible to consider the dominant vegetation in the garden a combination of palm, Ziziphus, Cordia, fig and Citrus; and wheat, barley and alfalfa had been planted among them. According to stories, travel literature, historical picture and also the registered vegetation in the garden sketch in 1999, there were tamarisk and mesquite trees as windbreakers and microclimate; and along the routes and the main axis of the garden there were some Ziziphus and palm trees. The row of Ziziphus, palm and tamarisk trees were left in 1999. Now they are destroyed too and only a few Ziziphus and tamarisk trees are left. The investigation of the aerial photos from 1966 until now and also the garden’s historical photo shows that in 1966 most of the garden’s arboriculture existed irregularly among the plots and regularly in
some of the garden’s main axes and some northern parts of the garden were also barren but from 1991 afterwards, most of the garden has been specified to wheat and barley cultivation along with regular row vegetation on the axes and margins of the garden with a few fruit trees on the radial plots of the south of the garden. The investigation of the garden changes by using aerial photos and historical documents show that there was a high interaction between the garden and the bed and the destruction of the bed over time was the main reason for the destruction of the garden. The other factors of the garden destruction included change of ownership, climate, economic conditions and urban developments. This garden underwent a lot of damage because the garden owner, who was of high status among the people of the region, was involved in a scandal which led him to leave the garden, and also because of drought and consequently the decrease of Bampour water and because of frost. Then with urban developments, the garden’s waterway, the only way to water the garden, was blocked and water well was built in the north east part of the garden to supply water. Because of the user changes of the building including the training center of the Agricultural Jihad Organization and then Cultural Heritage, a lot of changes happened in the garden. Studies show that after the destruction of the garden wall, it has undergone the most damages, among which there are the complete destruction of the vegetation, severe erosion of the garden buildings, and the water movement routes and the streets being buried by sand invasion. The measures taken to restore the buildings have not been enough and environmental restoration is needed which is the main purpose of this research. In the next step, revitalization of architectural collocation, composition plan, vegetative coverage system, system of water circulation plans and some segments of them, according to historical documents and scope observations, with considering the whole historical periods were done. In the last step, by Overlay the extractive layers of architectural, water circulation system, vegetative coverage and Composition plan, its historical plan was revitalization in the Qajar period (fig.28).

**Figure 28.** Revitalization the master historical plan of khaleseh garden belonging to the Qajar period with overly layers different of garden.

**Suggestion:**

The most important reason of the garden revival in the first place was to revive Bampur waterway in order to transfer water from Bampur River to this garden. After that, reviving the water distribution routes is very important and in this research, the garden’s interior routes were renovated according to photo NO.
Revitalization of Historical Landscape of Bampour

25, field understanding and the local people’s descriptions but because the routes are covered in sand, more studies and excavation are needed. For determine the exact location of vegetation Due to the complete destruction and influx of beach, recommended that form excavation for find roots of the trees will be used. According to studies of aerial photos, field understanding and the garden’s national register report, the only pond available in the garden is the circular pond near the main pavilion.

REFERENCES