

# The Role of Hard Surfaces in Landscape of Iranian Tomb-Gardens in India

Leila Rezapour

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Researcher

leila\_rezapour2002@yahoo.co.uk

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**Abstract**

The surfaces made of natural and artificial elements such as stone, brick, soil and non-arable land has are called, "hard landscape". In Persian Garden pattern, soft and hard surfaces are clearly separated from each other and this is visible in distinct areas. Although the gardens constructed in Indian Mughal kings era have followed the manner of Iranian gardening in terms of design pattern, building blocks and elements, and they can be called a species of Iranian gardens, but there exist some differences between them with the main examples, which can be observed with presence in the garden. The difference in hard landscape is one of these occurrences. In Indian gardens with Persian pattern, hard surfaces and floor-building are more extensive compared with those of Iran and more extensive garden and this significantly influenced the garden landscape in an obvious and perceived way. This study attempts to challenge the hard landscape difference, investigating the elements and characteristics of the garden environmental design and examining Indian examples. Accordingly, it is determined that the extension of hard surfaces and their geometric order based on straight lines and orthogonal angles in the absence of dense vegetation cause that Indian garden be perceived as more regular than Persian garden and its hard landscape find a double manifestation. In order to prove this, the hard landscape elements and qualities obtained by using them in Indian garden design are examined for the visual and perceived impact of proportionality change between the hard and soft landscape of garden to be specified in viewer's look.

**Keywords**

Hard Landscape, Iranian Garden, India, Floor-building, Landscape.

## Introduction

In the field of landscape architecture, various levels of a site are divided into two categories: Hard & Soft landscape. Hard surfaces refer to those made of natural and artificial hard elements such as stone, brick and non-arable land. "hard landscape refers to external perspective space the main building blocks of which consist of the objects such as sets of walls, fences, seating, trash containers, Waterview, shell and the outer wall of different materials" (Khorasanizadeh, 2003). The soft surfaces consist of green elements and water and natural processes play the major role in shaping them, but hard surfaces are often created by human intervention.

Overlap of Iranian and Indian culture and civilization has led to the fact that the trace of Iranian works and manner of architecture be observed in vast areas of India. Gardens in India are one manifestation of this cultural sharing, so that it is evident. Gardens of the Islamic era in India have been built on the manner of Iranian gardening<sup>1</sup> (Ansari, 2011).

This study seeks to reveal some of the features of this manner of gardening and do a comparative analysis of this and the Persian garden. Travel to India was an opportunity to do this study based on field research and close perception of space. One of the features that attracts your attention at your arrival to Indian garden space is spacious and wide corridors the intersection of which shapes major and minor axis of the garden. These areas which are often made of stone and sometimes crushed soil, manifest a distinct manifestation of the garden hard landscape to the viewer accompanied with the great tomb building<sup>2</sup> in the garden center. This led to the identification of the differences in hard landscape between Indian and Persian gardening through a comparative analysis from this viewpoint. In the process, not only the whole hard landscape of the garden including its fence and building but also floor-built surfaces of the axes and the garden platforms are studied.

## Hypothesis

Hard surfaces in Indian tomb-gardens are more extensive compared to the Persian Garden and this extension has influenced garden landscape.

## Hard landscaping in Persian and Indian Garden

Persian Garden is the oldest experience of landscaping and garden-adornment in the world and history of Iranian garden building shows its antiquity and importance to the Iranians. (Heidar Nattaj, 2010: 115). In Persian garden, the hard and soft surfaces are distinctly separated from each other and are vis-

ible in distinct areas<sup>3</sup>. Perhaps the reason behind this could be sought in the geometry and pattern order of Persian Garden.

In Persian gardens, hard surfaces are observed in the axes floor-building or corridors, gardens, entrance, the pavilion area or other buildings within the garden. Thus, according to the geometry of Iranian garden and the significance of hierarchies in it, it can be said that the major hard surfaces is allocated to the major axis of the garden which starts from the entrance and leads to the pavilion. In contrast, the major portion of the garden is allocated to the soft landscape including plant and natural surfaces including shading trees, fruit trees, and flower and plant flowerbeds. "After the water which has a major role in the formation of a Persian garden, the most important role is given to trees" (Diba & Ansari, 1995). Basins and running water streams in the garden axes also must be considered as part of the soft surfaces of the garden.

The mentioned Hard and soft surfaces exist in all Indian gardens especially tomb-gardens. Because the pattern of these gardens have been adopted from Persian gardens in Central Asia and present Afghanistan which was under the rule of Mughal and their ancestors. In addition, according to the testimony of historians, several Iranian architects were called for India to build gardens (Shakeri, 2008: 13). "After the revitalization of garden building in Timurid era coinciding with Safavid era, Mughal rulers ruling India established Iranian garden-building tradition with a specific style with the help of Iranian artists by encouraging Iranian culture, literature and Architecture" (Irving, 1984: 79 as cited in Pourjafar, 2004).

The existing difference in hard surfaces of Iranian and Indian gardens is the existence of huge and elevated platform surrounding the main buildings of Indian garden. Also, some platforms exist at the intersection of different axes of the garden which have been used for sitting or setting the tents out (Figs.1&2). In most cases, the surface of the mentioned platforms, whether in the surrounding of the building or in its center, are covered with big slabs. In continuation, to compare hard and soft landscape of Indian and Persian garden, the effective criteria and indicators are considered qualitatively and quantitatively. It's worth mentioning that however it is not possible to examine these two issues in a completely separate way, an attempt has been made that in the first part the garden space be analyzed and in the second part, its physics be evaluated. Also, in order to detect the differences with Iranian samples, we compare two garden samples.



Fig.1. Great stone platform expanded surrounding the tomb and is dominant over the garden. Humayun tomb-garden, Delhi. Photo: Mehrdad Soltani, 2012.

Fig.2. The wide platform at the intersection of the minor axes of Indian gardens. Bibi-ka tomb-garden, Aurangabad. Photo: Shervin Goodarzian, 2012.





Fig.3a. The width of the axis in Indian garden shows off in thin space of the garden. Humayun tomb-garden, Delhi. Photo: Mehrdad Soltani, 2012.



Fig.3b. Despite the width of the street in Persian garden, its soft landscape shows off. Princess Garden, Mahan. Photo: Seyed Amir Mansouri, 2013.

### Qualitative effective criteria and indicators

Because perception issue is a quality one, the following evidence which is the result of a field study on the topic is presented to explain and describe the mentioned quality of the garden space.

- Observer passing through the entrance of the building faces the main axis of the garden. The main axis of the garden which exists between the entrance and the central building of the garden has been considered wider than usual due to the magnificence of the front building. The width of the axis is so that the whole building is placed in the angle of the ob-

server. But in Iranian gardens, the width of the main street has not been so, and is a narrower axis relative to scale of the whole garden (Figs.3). For example, in Princess Garden, Mahan, Kerman, although the street axis has been built widely, its floor-building and hard surface part is small.

The presence of water which has a basic role in Iranian garden design is pale in the main axis of Indian garden and its other axes, so that a narrow water stream in the center of walking axis of the garden compared with its surrounding hard surfaces just has an ornamental and miniature appearance and

Fig.4a. The static and decorative presence of the water in Indian garden. Humayun tomb-garden, Delhi. Photo: Mehrdad Soltani, 2012.



Fig.4b. Turbulent water in streams of Persian garden is clearly visible. Fin Garden of Kashan. Photo: Ayda Ale Hashemi, 2009.



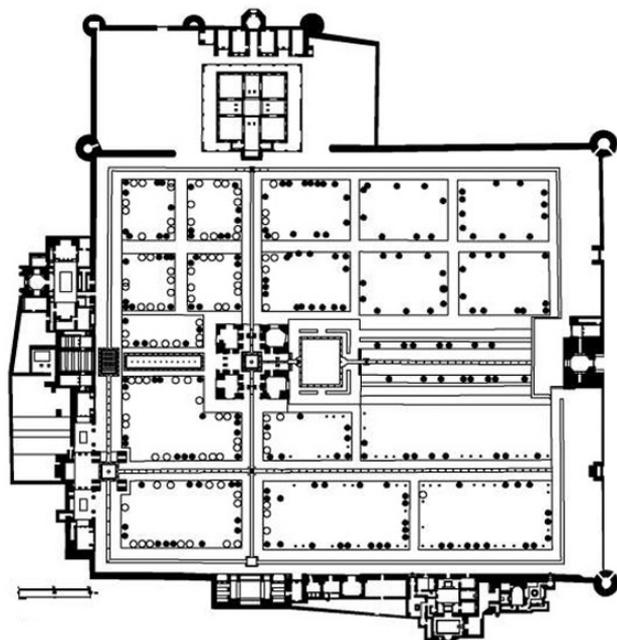
does not lessen the hardness of the wide and hard axis of the garden, however, water stream in Persian garden shows itself with a completely different personality in the axes and has a richly colored presence. An obvious manifestation of this issue is observed in Dolat abad garden, Yazd. Stillness of the water in the streams, compared with the dashing running water in the streams of Iranian gardens, is a doubled factor in the dominance of the hard surfaces of the garden floor-building. As a result, the rocky floor is the substrate and ornaments of the edges of the stream which shows off in Indian garden more than water (Fig.4).

- In most Indian tomb-gardens such as the Taj Mahal, Bibi-ka, Humayun's tomb, and even in the gardens such as Jaipur water garden, several minor axes are used to divide garden space, so that the whole garden is divided into four parts and each part again is subdivided into other parts. This issue is observed when comparing number of the minor axes of Humayun tomb-garden with Fin Garden in Kashan (Fig.5). The multiplicity of these divisions has led to the allocation of a major surface to the floor-built surfaces with stone or brick. Since the garden surface is noticeably devoid of numerous trees and soft garden space is primarily filled with short and coverage plants, divisions done with

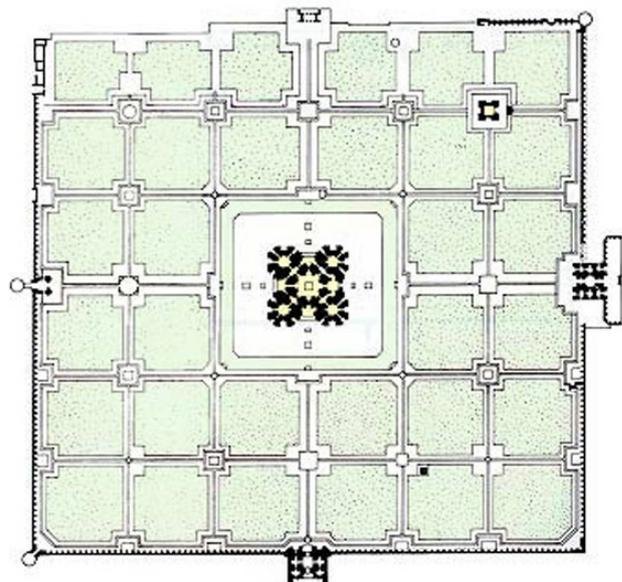
minor axes are mostly in people angle. This issue produces a double effect from the view (angle) of an observer seeing the garden on the top of the high central platform (Fig.6).

- At the intersection of the minor axes, floor-building space has been significantly expanded and is visible in form of a platform or place for planting a tree. These platforms, next to the wide platform surrounding the main building of the garden the area of which is in some cases more than a total of two or three plots to plant has dedicated a wide range garden area to itself, and this adds to the expansion of hard landscaping of the garden. It is worth mentioning that in Iranian samples, there is no platform in the centre of the garden and sometimes it is in front of the porch with a size not that much wide.

- Among the points of striking in the hard surfaces of Indian gardens is their expansion on a complete and regular geometry. With respect to the fact that the environment is not devoid of the trees and the emphasis is on regular edges of the garden axes made of large pieces of stone, geometric order of the garden axes causes the hard surface of the garden to appear in its full beauty more than before. But it is very rare in Iranian samples, because however Persian Garden follows a regular pattern, but never is openly displayed in all areas of the garden.



Fin Garden



Humayun Tomb-Garden

Fig.5. Comparison of divisions in Fin garden in Kashan and Humayun tomb-garden. It should be noted that Fin Garden is one of the most axis-intensive gardens in Iran and Humayun tomb area is over five times the area of Fin garden. Source: www.iran30t.com



Fig.6. Landscape of geometric divisions of the garden on the top of high platform in Indian garden. Bibi-ka tomb-garden, Aurangabad. Photo: Mehrdad Soltani, 2012.

Also, the existence of high trees and dense vegetation reduces the appearance of the hard landscape of the garden.

- Considerable height of the floor-building surfaces relative to the natural surfaces of the garden is remarkable. This leads to the prominence of the floor-building surface. Due to the low density of vegetation in the garden, this surface is seen in whole the garden and plays a significant role in public view (see Figs.6&7). In Bibi-ka tomb-garden in Aurangabad city, two sides of the main axis of the garden have been closed with a wall with a height of about two meters. Although this has been done to attract

the attention of the observer to the front building as much as possible, finally it has caused the landscape of the main axis of the garden to be appeared devoid of the plants and soft surfaces and like a city street in the viewer's eye (fig.8).

#### **Quantitative effective criteria and indicators**

Although the main theme of this study in comparing the hard surfaces of the gardens in Iranian and Indian area is related to the issue of perceiving the space as a qualitative issue, and the evidence shown in this study has dealt with the issue from this viewpoint, but quantitative analysis of the details of the



Fig.7. The height difference between the floor building surfaces and plots of Indian gardens. Taj Mahal tomb-garden, Agra. Photo: Mehrdad Soltani, 2012.

Fig.8. Stone wall on both sides of the main axis in Bibi-ka garden tomb has made it similar to an alley. Bibi-ka tomb-garden, Aurangabad. Photo: Mehrdad Soltani, 2012.



issue has its own pleasure and can validate the proposed claim in the research hypothesis from another angle.

Accordingly, the hard and soft surfaces of Fin garden in Kashan and Humayun tomb garden as two typical Iranian garden building in Iran and India were subject to quantitative analysis (see Fig.5). It is explained that Fin Garden, in the terms of the geometry, divisions and benefiting from more hard surfaces has more resemblance to the samples existing in India compared with other Iranian samples,

Humayun Tomb, due to taking advantage of hard surfaces is considered as a common sample in India. Based on interpretations performed with acceptable approximation, of the total area of Kashan's Fin Garden, about 45 percent is devoted to the hard surfaces, and this amount includes entrance areas, entrance building, pavilion and other middle areas. While, in Humayun tomb, over 60% of garden space is covered with hard surfaces. This indicates the excessive presence of hard surfaces in Indian garden compared with Persian garden.

## Conclusion

Landscaping in Indian garden, similar to its Iranian counterpart, is so that the hard landscape of the garden has been separated from the soft surfaces and only in a few cases, the integration of these two is seen in decorative forms. But the emphasis on geometry of the garden, the garden being devoid of dense trees, expansive walking surfaces, platform building and some other mentioned factors, have caused the hard landscape of the garden and in particular its floor-built surfaces to dedicate to itself a considerable portion of public view of the garden in contrast to its natural surfaces and this has influenced the garden landscaping.

Due to the presence of an elevated platform, this issue has a more appearance in the observer's perception of the garden and causes the role of the hard surfaces in Indian garden to appear more important than that of Iranian garden. Thus, the expansion of the hard surfaces and their geometric order based on the orthogonal angles and straight lines which is a of feature of this method of garden building, causes Indian garden to be perceived as more regular, and the effects of man- made order to be appeared more obviously.

## Endnote

1. Also see Masoudi, 2005.
2. A major part of the gardens of the study are of tomb-garden species.
3. This is a characteristic of Persian garden and is not observed in other methods such as Japanese and Chinese garden building where hard and soft landscaping are used in combination with each other.

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