Review

Mughal Gardens And Assessment of Mughal Empireress’s Inclination Towards Lahore, Pakistan

Nadeem Ullah¹, Wang Jiny², Zhao Jin³*

¹Department of Landscape Architecture, School of Landscape Architecture, Beijing Forestry University, No 35, Qinghua East Road, Haidian District, Beijing, P.R. China (Email: nadeem_mla@bjfu.edu.cn)
²Department of Landscape Architecture, School of Landscape Architecture, Beijing Forestry University, No 35, Qinghua East Road, Haidian District, Beijing, P.R. China (Email: shuixiusophie@gmail.com)
³Department of Landscape Architecture, School of Landscape Architecture, Beijing Forestry University, No 35, Qinghua East Road, Haidian District, Beijing, P.R. China (Email: zhaojing850120@163.com)

*Corresponding Author:
Zhao Jing
Phone No. +8613811993788

Published online: 19 September, 2018

Abstract: Lahore has been the capital of Mughal dynasty and became a prominent settlement when the Akbar ordered to make this city fortified. Other Mughal capitals in subcontinent like Delhi, Agra, and FatehpurSikri were also graced with different gardens but only Lahore came to be known as a “City of Gardens”. The available research papers, online articles, books and library archives were used as a source to assess the Mughal emperor’s inclination towards Lahore. During their rule of almost two centuries (185 years), they made Lahore almost the second capital of India. From the first Mughal emperor, Babur, to the last sovereign of Mughal, Shah Jahan, tried to make it more and more beautiful city of gardens in the sub-continent. Mughal gardens always had a prevailing effect on architectural history and design which is distinguished by the countenance of art, culture, and values of Islam. Mughal gardens of Lahore have a powerful impact on architectural history and design in many parts of the world. The photo of Lahore as the “Garden City” of Asia was preserved until the start of the twentieth century but now changed due to rapid urbanization around and inside the memorials and gardens. These historical monuments should be preserved and saved as
INTRODUCTION

The Mughal Empire was a great Muslim power in the Indian subcontinent. Its establishment in 1526 A.D by Babur was a step to establish an Islamic power in the Asian continent to rival the contemporary powers of that time, which were the Ottomans, led by Salim I and the Safavids led by Shah Ismail (Kulke&Rothermund 2004). The existence and achievements of the Mughal Empire were regarded as a jewel in the Islamic civilization, comparable to Islamic civilization in al-Andalus during the Umayyad’s era, Baghdad during the era of the ‘Abbasids and Turkey during the Ottomans (Hamka, 2006).

According to Bakar (2000), the Mughal era can be divided into two, namely the era of consolidation and glory (1526-1707A.D) and the era of decline and downfall (1707-1857A.D). He stated that the Mughals glorious era can be observed during the first half of the empire’s history when the Indian region was ruled by Muslim ruler Babar, Humayun, Akbar, Jahangir, Shah Jahan, and Aurangzeb. The second half of the Mughal’s period witnessed the decline of the Mughals, particularly after the demise of Aurangzeb in 1707 A.D. at a time when the Mughal empire was weak and besieged by serious resistance from the Hindus, power struggle among the royals, weakness, and incompetence of the rulers and invasion and intervention by foreign powers, particularly from Europe (Bakar 2000; Ishak 1992).

The Mughals architecture is very famous. They built many buildings along with that they built different gardens for recreation. The Mughal gardens were built on specific ideas. They assimilate both natural and built environment’s finest features with traditions of local and regional landscape design. They draw together human aspirations for worldly and spiritual order - merging the paradise-like potential of the world with symbolic representations of the paradise that awaits the faithful in the world to come. Mughal gardens also synthesize the aesthetic and functional needs of society. They provide a context for poetic, artistic, and personal beauty, on the one hand, and on the other hand for social functions, spatial protocol, and norms of social interaction (Kausar et al., 2005).

The roots of Mughal gardens meet to central Asia, while the climax was touched in India for a long-time period (Koch, 1997a). Central Asia, Kashmir, western Punjab, Persia, and Delhi Sultanate has great influence on Mughal gardens (Wescoat, 1996). Mughal gardens always had a prevailing effect on architectural history and design which is distinguished by the countenance of art, culture, and values of Islam. It represents an extraordinary synthesis
of human concerns. It integrates the best and fine civilization of all the local and regional landscape with premium features of natural and constructed environments. They have drawn gardens by bringing together human aims for sophisticated psychic order and merge them with the Paradise imageries with real garden design on earth (Wescoat, 1996).

The basic plan and other elements of the Mughal garden are influenced from the earlier gardens in Turkestan and Persia, especially the ChāhārBāgh or fourfold garden layout (Gilliat-ray & Bryant, 2010; Brooks, 1988; Stronach, 1994). Mughal gardens took a great advantage of the natural feature in the landscape by erecting gardens of three types; first, gardens within the palace courts; second, gardens that surrounded tombs and third are the gardens of large charbaghs or paradise gardens (Moynihan, 1980).

Lahore acknowledged as the “cultural heart of Pakistan”, has a very old history of more than 2000 years. There are references to its existence in the documents of the second century A.D. and in Hindu legends of the pre-Christian era (Latif, 1892). Not only the Muslims, but people of different religions like the Hindus, Sikhs, and the Christians have ruled in this area. Consequently, the evolution of Lahore city has arisen with a specific culture and origin since antiquity (Thornton, 1924). But, it was the Turku Persian character that left durable and dominant effects on this city.

According to UNESCO (2006), Lahore started to obtain the stature of a city when Mahmud of Ghaznavi’s slave and later his successor in India Malik Ayaz brought some order to the initial settlements of Lahore along the left bank of the river Ravi around 1000ACE. Situated on the crossroads of trade routes connecting Central Asia with the Gangetic Plane the city had its share of visitors, traders, and invaders as laid out by the new rulers from Central Asia. Its stature as an imperial city was confirmed during the Mughal Empire particularly with the rule of Emperors Akbar, Jahangir and Shah Jehan.

The main Mughal Emperor, Babur caught Lahore in 1526. Later on, Lahore stayed as the capital of India for a long time from 1584 to 1598 amid the rule of Akbar (1556-1605), the third Mughal Emperer. He modified the officially existing Fort and encased the city with consumed block divider having 12 esteemed doors. Among these doors, the well-known Masjidi Gate was built in 1566 A.D simply inverse the eastern entryway of Lahore Fort (figure 6). His successor, Emperor Jahangir, was extremely enamored with this city and used to hold courts here. He and his significant other, Empress Noor Jahan have their tombs at the north-west outskirts of Lahore city. He is additionally well known for the development of a chasing resort, HiranMinar at the edges of Lahore. The following beneficiary was Shah Jahan, who was conceived in Lahore. The renowned Shalimar Garden was worked by him in
1642. Among all the Mughal Emperors, he was known as the "Incomparable Builder". Amid nowadays, Lahore turned into an imperial habitation where Mughal rulers invest some energy consistently. Because of these illustrious associations, Lahore has obtained numerous Mughal design resources. Jahangir and Shah Jahan's engineering commitments incorporated the augmentation of Lahore stronghold, development of mosques, tombs, gardens, castles, imperial courts, troop sarais, hammams, city dividers, havelis (illustrious homes) and so on.

The conversion of an Indian town, Lahore, into a modern city, particularly the evolutionary development of its architecture was prominent. The typology of buildings introduced by the British was not known in this land before (Thornton, 1924). By the end of the British rule, Lahore, the capital city of the Mughal emperor Akbar, the center of the Sikh Kingdom, stood transformed with a dual-faced identity. On the one hand was the old city and on the other, were the colonial additions of the Cantonment and the Civil Lines. The contrast was blatant not only in the relative hygiene of the areas but also regarding the urban pattern, house design, shopping habits, living styles and cultural ethos. The focal point of this colonial city became the precinct of Anarkali with the Mall as an arterial connection with the cantonment (Walker, 1894).

Although it has a turbulent history full of periodic invasions and pillage. But its beauty and grandeur cannot be exaggerated, because under the reign of the Mughals it rose to the height of splendor. They constructed beautiful edifices and gardens that have surpassed in the chastity of radial and bilateral symmetrical design and delicacy of geometric ornamentation. Mughal architecture is characterized by domes, arches, minarets and vaulted roofs and has no parallel in ornamentation. Massive structural and extremely detailed decorative artwork placed the Mughals as the greatest contributors to the magnificence of Lahore (Baqir, 1984; Nadeem, 1996). The skill of bricks manufacturing, laying and cutting was at its extreme. Red stone, shiny tiles and white Red stones, Shiny tiles and white marbles were utilized to furnish bricks. The use of geometry and shading brought a rich and luxurious impact. The lush white marbles with embroidery of mirrors and artful stones convey the splendid taste of the Mughals. Unluckily because of devastating factors this all seems to be a part of humbled history, and if this awful wipeout should continue then whole Mughal heritage will just be remain as the part of rubble history.

Lahore Mughal gardens have a great influence on architectural history and design in several parts of the world and it is thought to be one of the ancient city. It was established in the 1st century A.D. according to some historians (Latif et al., 2002). While other historians tell its history by linking it to the eras of the Rama, the hero of the renowned epic the
Ramayana (Ahmed et al., 1982). Nearly all basic textbook on world architecture mentions the Mughal gardens as distinguishing hed art, culture, and values of Islam. And the most important Shalimar Garden and Lahore Fort are the worlds Heritage sites that are in Lahore (Kausar et al., 2005).

Mughal gardens reflected conventional formal heaven because the respect felt by Mughal emperors for Kashmir. The leaders of the Mughal Empire manufactured fantastic castles and gardens which were typically adjustments of the Mughal style after the realm of debilitated bringing about the decay of its design. These royal residence gardens were worked without the utilization of solid pivotal symmetry and the utilization of water in them decreased or at the end of the day, Chahar-Baghs were no more assumes the part of the garden's model. The immense Mughal period finished after the demise of Shah Jahan (Moynihan, 1980; Stuart, 1913).

It had been reigned by the Mughal Empire, and later ruled by the British Government in the Indian Subcontinent. After the independence of Pakistan and India, it became part of the Islamic Republic of Pakistan, close to the eastern border shared with India. Lahore is the second largest city of Pakistan. The city has a number of architectural buildings, mosques, churches, temples, tombs, parks and gardens making it an attractive tourist place. The city became vast and grown in a large way and is now comprises of the walled city, and the adjacent urban and suburban areas of the south and southeast. It is now a very busy city having abundant commercial and trade opportunities and became a technology center in the country (Price water house Coopers, 2009).

So far, not a single study has been carried out to highlight the main driving factors/reasons that have contributed to the fact that Mughal rulers developed many beautiful gardens specifically in Lahore city.

**METHODOLOGY**

To gain our objectives we have dived deep into the sea of possibly all available literature in soft and hard form. Data was collected from different sources including research papers, online articles, books and library archives.

**The city of Mughal gardens: Lahore**

The two great rulers’ family were ascendants of Mughals. From the Maternalside, they were descendants of Genghis Khan (died 1227 AD), ruler of the Mongol tribes, China and Central Asia. From their father’s side, they were the successors of Timur (died 1404 AD), the
ruler of Iran, Iraq and modern-day Turkey. However, the Mughals did not like to be called Mughal or Mongol. This was because Genghis Khan’s memory was associated with the massacre of innumerable people. It was also linked with the Uzbeks their Mongol competitors. On the other hand, the Mughals were proud of their Timurid ancestry, not least of all because their great ancestor had captured Delhi in 1398 AD (Lal, 2001).

The Mughal Empire starts with Babur, the first emperor. At the age of 12, he becomes the ruler of a tribe in Central Asia (now Uzbekistan). He is also of Mongol/Turkic origin, a great-grandson of Timur and an indirect descendant of Genghis Khan. At an early stage, he decides he wants to conquer the nearby rich city of Samarkand. He later invades present-day Afghanistan and after that present-day Pakistan and India to establish the Mughal Empire. Over the years after Babur defeated the ruler of Northern India in 1526AD (at the first Battle of Panipat), he and his descendants expanded the Mughal Empire through pretty much all of present-day India, Pakistan and Bangladesh. Bahadur Shah Zafar would be the last emperor of the Mughals before the British deposed him in 1858AD and the Mughal dynasty officially came to an end (Lal, 2001).

The Grand Trunk Road elongates between Kabul and Bengal. Though it was from ancient times its position did not unchanged. The powerful Afghan chief Sher Shah Suri had given the final alignment to it. Starting from Kabul, it passes through Jalalabad and Khyber Passes, it reaches Peshawar. Moving south it crosses the Indus River near Attock and passing through Rawalpindi and Rohtas it reaches Gujrat after crossing the Jhelum River near Sarai Alamgir. From Lahore, this imperial highway enters into India, and after touching Sirhind it reaches Delhi and continues towards Agra and beyond. The Mughal rulers passed along it quite frequently, and each one of them contributed to its enhancement by constructing public structures at convenient distances from one another (Grand trunk road).

Punjab is situated at the junction connecting India and Central Asia on the East-West line, and the Arabian Sea in the South, and has thus seen an almost continuous flow of visitors, pilgrims and sadly invaders to the city. Nine different imperial Muslim dynasties have ruled in India. The invaders from Central Asia conquered this land one after the other and coming from the northwest, heading towards Delhi. Lahore city was the first reward to be received by the invaders. It used to regain its status and prosperity as the rule of the intruders gained stability. Thus, its prosperity ebbed and flowed because of the sovereign changes. Each conqueror initially brought death and destruction (Latif, 1892). The most important reason Lahore became prominent, however, was its role as an imperial capital within a regional urban network. From the period of the Ghaznavid dynasty circa 977-1186AD, for which,
beginning in 1152 A.D, Lahore was the eastern capital, to the end of British rule on the Indian subcontinent in 1947 (Latif, 1892).

In 1526 A.D. Lahore became Mughal Empire’s part, the gardens were built by the victorious princes along its riverbanks, paving the way for two centuries of urban landscape change. For most of this period, Lahore was a provincial capital subordinate only to Agra or Delhi; but toward the end of the 16th century, Lahore briefly became the imperial capital. Mughal rulers consciously continued the Central Asian practice of building gardens in the cities they conquered. In the case of Lahore, gardens eventually transformed the innermost courtyards of the royal citadel, the residential quarters of the walled city, and suburban routes which encircled the city and radiated out toward Delhi, Kabul, and Multan. Most of these gardens were formal rectilinear enclosures with exquisite waterworks, pavilions, and plantings. They were loaded with allusions to cosmologic, dynastic, and territorial themes which the Mughals fused into a distinctive architectural tradition. But the Mughal gardens of Lahore were not isolated art objects or symbols. They were nodes in an elaborate network of roads, communications, and ritual movement that linked gardens with a host of related places, including mosques, shrines, bazaars, rest stops (sarais, and settlements.

The rapid decline happened in Lahore after the death of Aurangzeb in 1707 CE. Several invasions culminated in the ascendance of a Sikh empire centered politically at Lahore and spiritually at Amritsar. This shift in religious control did not slow down the construction of gardens "in the Mughal style" (Dar, 1982; Rasool, 1994)

The last Mughal governor of Lahore fell in 1759 A.D, after which most Mughal gardens were converted to other uses, along with the physical and social network that had once connected them. Academic research has perhaps understandably concentrated on the monumental sites which survive, to the neglect of the geographical connections among them. The connections among sites are crucial, however, for understanding the evolving pattern of Mughal patronage, power, and social life. (Wescoat, et al., 1991).

In Pakistan, Lahore being the second largest city with about 9.25 million population and is also the traditional capital of Punjab and cultural center of northern India for thousand years. It extended to Peshawar in the North and Delhi in the South- East. The historic walled city of Lahore is situated one mile to the south of the River Ravi, and some 23 miles from the eastern border of the Punjab district. The temperature of Lahore is intense as high as 50º C in June and as low as 1º C in January (Thornton and Kipling, 1860).

Lahore, a very old historical and a cultural place, a city whose commencing time back to antiquity. Layered with the remains and monuments of consequent diverse civilizations, this
ancient city is studded with heritage sites of significant universal value amongst which are embedded two UNESCO World Heritage sites. One of which is the Lahore Fort, an ancient fortress that has been the nucleus of the historical city of Lahore for centuries. The slowly decaying monuments have long been neglected since the state of historic preservation in the country is impoverished, with a dearth of proper training and education and poor documentation skills. The current situation of Pakistan as a developing country, the access to basic resources and education is still lacking, therefore, the funds and resources available to restore the heritage of the nation are non-existent. However, as this heritage is an inseparable part of this country and the historic identity of the world any conservation effort is a necessity. The Lahore Fort is a palimpsest of historically vital architectural elements forming a royal complex of heritage monuments. One of the most significant ancient citadels, it forms a prime example of the Mughal building style of architecture involving advanced techniques of detail and artisanship. The Fort was declared a UNESCO World Heritage Site in 1981, primarily due to its possession of the world’s largest mural wall referred to as The Picture Wall (Arif and Essa, 2017)

Gardens assimilate both natural and built environment’s finest features with traditions of local and regional landscape design. They draw together human aspirations for worldly and spiritual order - merging the paradise-like potential of the world with symbolic representations of the paradise that awaits the faithful in the world to come. Mughal gardens also synthesize the aesthetic and functional needs of society. They provide a context for poetic, artistic, and personal beauty, on the one hand, and for social functions, spatial protocol, and norms of social interaction, on the other. Mughal gardens of Lahore have a powerful impact on architectural history and design in many parts of the world. Almost every introductory textbook on world architecture refers to Mughal gardens as one of the preeminent expressions of Islamic art, culture, and values. It is also important to narrate that there are two World Heritage sites in Lahore: Shalimar Garden and Lahore Fort (Kausar et al., 2005).

Shah Jahan built Shalimar Garden on the Grand trunk road on the east side of Lahore and established a classical example where architecture, landscape design, and hydraulic system may be seen at their best. Whereas the Taj Mahal is considered one of the finest achievements in architecture, Shalimar Garden is the finest example of a garden built in the hot plains. Beside their technological achievements, gardens achieved spiritual dimensions. Sufi saints used to spend more and more and more time in gardens to appraise the God’s creation. In addition, some of them have also founded gardens. Dara Shikoh, the eldest son of
Shah Jahan mentioned the name of several gardens where Mian Mir (his spiritual master) used to spend time, meditating upon and appraising God’s Creation. The canal brought from the River Ravi to irrigate the Shalimar Garden proved an important catalyst for urban expansion. Several building gardens were built in and around Baghbanpura and irrigated by water channels drawn from the canal. The garden activity was so intense that Lahore turned into a city of gardens when compared to other cities of the Mughal Empire. More gardens were built during this than during all previous regimes. The canal from the river Ravi was brought to Lahore on Ali Mardan Khan’s request and cost over one lakh (one hundred thousand) of rupees. When the canal reached the suburbs of Lahore, Khalil Ullah Khan was ordered to take architects and engineers to select a suitable site for a garden near a canal. The site had to be naturally terraced so that it could have tanks, canals, cascades, and fountains as described by the emperor (Grand Trunk Road).

Through Akbar’s time, Lahore remained the capital for fourteen years of the territory, from 1484 to 1498. Important nobles constructed their houses and gardens in Lahore. Most of these gardens were built on the banks of the river Ravi. The most important of these gardens were Dilafroz, where Jahangir stayed in 1015 AH/1606 on his way to Kabul, Bagh-e-Nizamud Din Ahmad, Bagh-e Khan-e Azam, Bagh-e Andjan, Bagh Malik Ali Kotwal, and Bagh-e Zain Khan Kokaltash. The later one had terraces, pavilions, corridors arches, walkways and SawanBhadon with chinikhanas lit by lamps at night. This garden is reported to have existed till 1820A.D. A number of these gardens were mentioned by Dara Shikoh. During the reign of Jahangir Lahore turned into a garden city. Important personalities of the reign preferred to live in Lahore as the emperor was regularly visiting the place on his way to Kabul and Kashmir. The important gardens added in Lahore include Bagh Mirza MominIshaq Baz, BaghShamsuddin, Bagh-e Dilkuska and Bagh-e Anarkali. William Finch who traveled in India during the reign of Jahangir also came to Lahore and mentioned the gardens of Lahore. He gave an elaborate description of the haveli garden of Asif Khan (Grand Trunk Road).

After Akbar’s time, the city of Lahore continued to be a favorite city where to live during the reign of Shah Jahan. ChandarBhan, a historian of Shah Jahan’s reign, mentions that the officers of the Mughal Empire maintained a mansion in Lahore even if they were posted elsewhere in the Mughal Empire. During the reign of Shah Jahan, Ali Mardan Khan being the governor of Lahore, Kabul and Kashmir built gardens in all important locations. In the North West Frontier Province, he built two beautiful gardens in the northwest and west of Peshawar. During this period another garden was built in the south-west of town. These
gardens were irrigated by the Bara River which used to flow close to the town and must have had a very charming landscape. Ali Mardan also built a garden in Sohdra (a small town on the left bank of river Chenab) and also had a tomb garden built for his mother in Lahore (Grand Trunk Road).

The city of Lahore was literally a “City of Gardens” in South and Central Asia. In the late 19th century, Lady Dufferin, wife of the Governor-General of British India saw Lahore encircled by the gardens which extended towards northeast for five miles. She called Lahore a city of trees, flowers, fruits, and fields. There were more than fifty gardens of the Mughal period in Lahore and the Sikhs added at least 24 more gardens. Most of the gardens were in existence when the British annexed Punjab in the middle of 19th century. The gardens were laid around the mausoleums or attached to the palaces. The large gardens were designed as halting or camping places or places for recreation and pleasure in which pavilions were constructed with waterways and fountains. Many gardens came to be known after the fruits or flowers planted in them, namely rose garden, gardens of dates, almond, and pomegranate. A high wall for protection and privacy generally enclosed the gardens. Among the largest gardens planned around the mausoleums is that of Jehangir, the fourth Mughal Emperor, on the right bank of the Ravi River. It is the very best and well-preserved garden in char bagh style which was originally created in the middle of an extensive garden which has been recorded by many travelers (Mughal, 2005).

With the decay of the Mughal Empire afterward the decease of Aurangzeb (1707A.D), a prolonged period of conflict was experienced by Lahore, on the one hand, internally among the various princes vying for the throne, and, on the other, with invaders from Afghanistan. Mughal gardens were used as camping grounds for invading armies. Ganda Singh recounts the fate of the city's gardens during a war between the local ruler Muin-ul-Mulk and Ahmed Shah Durrani: “The neighborhood of Lahore was then full of beautiful gardens and orchards, reminding them of the old grandeur of the capital, but according to UNESCO survey (2006) they were all cut down for the purposes of entrenchments…. And green gardens were converted into dry and dusty lands, studded with trenches all over”

Prior to the Mughals, a historical existence record of six gardens mainly from the Ghazvinid period (1014-1186ACE) all of which are now extinct. The pre-Mughal Gardens of Lahore were located towards the southern side of the walled city or within, and with one exception were either built or converted, at some stage, to tomb gardens. Although none of these gardens now exist, however, with the exception of one, their location can be traced due to the remnants of the tomb or graves which were located within them. Thus, Bagh-e-Ayaz,
near Rang Mahal (later Ranjit Singh’s mint) became the burial place of Malik Ayaz in 1051 or 1057 ACE; the Bagh Qutubudin Aibak, near Anarkali, became the burial place of Aibak at his death in 1211 AC; the Bagh-e-Zanjani in the Chah Mira area, became the tomb of the saint Zanjani; the Bagh Shah Ismail, near the Hall Road, was where Shah Ismail was buried on his death in 1056 AC; and likewise the Bagh-e-Shah Kaku Chisti, on the eastern side of Serai Sultan in Mohallah Dara Shikoh was where Kaku Chisti was buried at his death in 1325 AC. The Bagh-e-Daulatabad is the only one which is not associated with a tomb and was probably a palace garden. Reputed to have been near Mozang it was laid out within a fortified quarter along with a serai, boali by Daulat Khan Lodhi, Governor of Lahore (1517-1525)(UNESCO 2006).

Constance Villiers-Stuart had made the first stern historical study of Mughal gardens and wrote a book with the title “Gardens of the Great Mughals (1913)” (Aijazuddin et al., 1991).

Literally, the Charbagh or ChaharBagh means rectangular gardens cross-axial divided into four parts by pathway or water channels. According to Dickie, (1985) as he referred to the booklet entitled ‘Some ancient garden of Lahore’ by Dr. Dar, courtesy of Lahore Museum, distinguishes four kinds of gardens: (a) gardens attached to palaces or havelis; (b) gardens which serve as substitute royal residences, for the emperor to put up at when on a journey; (c) funerary gardens surrounding purpose-built mausolea; and, lastly, (d) pleasure gardens with baradari in the middle, the commonest category. (Dickie, 1985) further elaboration on the Mughal garden mentioned that at the peak of Mughal power, there are some 50 gardens at Lahore which one was the largest garden in the world. Since the irrigated vegetation may have a profound impact on the Mughal gardens in terms of its aesthetic and religious value, it also plays an integral role in controlling the micro-climate conditions via the process of evapotranspiration.

Until the beginning of 20th century, the original layout of gardens around the city of Lahore had survived. It is reported that the old city of Lahore had a series of connected gardens around its fortification wall and the moat, which provided a refreshing and beautiful look to the city from all sides. The area between the city of Lahore and Shalimar Garden on the Grand Trunk Road was studded with a number of gardens for a distance of five miles. Various gardens that were created by the Mughal rulers and their successors and governors were not less than eighty in and around Lahore. However, the very best and largest of all the gardens in Lahore is the World Heritage monument of Shalimar Garden. It was built under the patronage of the Mughal builder-king Shahjahan in 1642 ACE outside the city of Lahore. It is the most beautiful and elaborate garden ever created by the Mughals and also unique for
being the largest in size created during the period of Shahjahan as compared to those in Srinagar (Kashmir) and Delhi (now extinct). Adjacent to the Shalimar garden were three other gardens in an open space around which have disappeared since long (Mughal, 2005).

Saif-ur-Rehman Dar credibly displayed Mughal gardens in Punjab have ancient roots and modern manifestations. They were influenced by gardens of other regions and times and identified five regional influences (R. Nath et al., 1982): 1. Central Asia, 2. Kashmir, 3. Western Punjab, 4. Persia and 5. Delhi Sultanate Other Mughal capitals in the subcontinent at Delhi, Agra, and FatehpurSikri were also graced with gardens but they did not have the same effect on the identity of those cities. Agra is best known for individual monuments such as the Taj Mahal and Fort; FatehpurSikri for its ceremonial palace complex; and Delhi for the planned city of Shah Jahanabad. Each had gardens, but only Lahore got the title of “City of Gardens” (M. Brand et al., 1985).

Even though gardens were built formerly and afterward the Mughal period. The gardens of the 17th century had the most lasting imprint on the form and identity of Lahore. They influenced subsequent patterns of garden design. The importance of Mughal gardens in Lahore is thus jointly regional and global, historical and spatial, spiritual and political, natural and cultural, aesthetic and functions (Dar et al., 1982).

Dar (1982) mentioned that in Lahore the gardens of Shalimar and Tomb of Jahangir were present in somewhat original layout while the remaining other gardens were in neglected conditions or had vanished completely.

The city of Lahore consequently saw many of fortune in times of peace and prosperity and shrinking back to its shell of the defense walls during periods of unrest and wars. The city of Lahore developed a labyrinthine street pattern both as a response to extremes of weather as well as defense. The weaving streets created pockets of shade and sun at all times and in all climates enabling the pedestrians to move from shade to shade in summer and from one sunny spot to another in the winters. It was a pattern ideally suited to the climate and for the pedestrian traffic of the city planting of trees and gardens further mediated the extremes of weather. Major streets wove around and culminated in the twelve gates that connected the walled portion of the city with areas beyond. It expanded along the routes to other urban centers, to Delhi, Kasur, Multan, and Amritsar and along the riverfront both upward and downward of the city. While suburban settlements took root in the form of Dharampura, GarhiShahu, and other sand Mughal Lahore spread much beyond its walls to encompass 36Guzars (administrative divisions) of which only 9 were in the walled city, gardens were planted near the river helped by the fact that the river Ravi is gentler than the Chenab and
Sutlej and the particular soil and geography around the city of Lahore lent itself to gardens which could be easily watered by the river. The city occupied a promontory on the left bank of the river while the river flowed towards and then around it making a loop that lent for the city to be almost surrounded by gardens (UNESCO 2006).

The Mughals brought the tradition of creating formal gardens with canals of running water, tanks, fountains, and pavilions to South Asia from Central Asia at the beginning of 16th century ACE that was entirely different in expression than the gardens of the earlier period. A number of gardens were laid soon after the first Mughal Emperor, Zaheer-Ud-Din Babar established the Mughal Dynasty in the South Asian Sub-continent in 1526 ACE that lasted for more than two centuries. Among the four capital cities of the Mughals, Lahore remained a city of special importance to many Mughal rulers because of its moderate climate and location between Kabul and Delhi. Therefore, the Mughal rulers and their governors selected the city of Lahore in Pakistan, for laying out gardens. All of them thus contributed to making it the most beautiful city of gardens in the sub-continent. The tradition of laying out new gardens continued even after the decline of the Mughal rule even by their successors such as the Sikhs before the arrival of the British colonizers in 19th century ACE. The basic plan and other elements of the Mughal gardens, in fact, reflected the Islamic concept of paradise on earth with rows of trees and flowerbeds, centrally placed canals, waterfalls and running fountains. The gardens were traditionally divided into four, eight, sixteen or thirty-two equal parts with watercourses and brick-lined walkways and causeways. This plan is historically known as the Char-Bagh or 4-quartered garden which was originally inspired from Iran (Mughal, 2005).

The best-planted gardens Bagh-e-Dilkusha or Dilamez (later Jahangir’s tomb), Bagh-e-Mirza Kamran and the extensive garden of Zebinda Begam were built for recreation and pleasure along both sides of the river. The increasing number of gardens of Lahore lent additional glamour to the expanding urban 15 settlements as it acquired imperial trappings during the Mughal period. Thus, Lahore became the famed city of Gardens. (UNESCO 2006).

The Shalimar Bagh had significant impact on the growth of Lahore, changing the structure of the city and expanding into a circuit of about 16-17miles during Shah Jehan's sovereignty (Thornton TH, Old Lahore quoted in Baqirpg 325) Gardens became an important aspect of the spatial pattern and the city developed a maturity of design as in evident from the remnants of gardens and historical accounts. Not sufficient research on this aspect has been carried out to reveal the significance of gardens vis-à-vis the urban morphology of Lahore. It
is not known whether the placement of the gardens was according to a larger vision, or whether the rewash a designed pattern of waterfront gardens as in the case of Agra. Or whether Jehan Ara Begum's (Shah Jehan’s daughter) extensive garden situate donabring of the Ravi south-west of the walled city, the Bagh-e-ZebindaBegam, (completed1646-47ACE), had any significant relationship with the exquisite Shalimar Gardens (UNESCO 2006).

Garden building activity along the Grand Trunk Road sustained throughout the government of Aurangzeb (1658–1707A.D). At Attock, several surviving mosques and tombs on the left bank of the river Indus near MallahiTola constitute an important archaeological site in the region. At the same time, Lahore continued to witness garden activity during Aurangzeb’s time. A ladies’ garden was built on the left bank of the River Ravi on the road leading to Multan. This garden was built by a Zebinda Begum, probably a daughter of Aurangzeb. The glory of this walled garden may be observed from its surviving majestic gateway which is comparatively most monumental in scale than any other garden of Lahore. Nadira Begum also built a beautiful garden in the east of Lahore. It had an elaborate water system. A causeway still survives along with other landscape features. After her death, she was interred in her own garden. It is apparent that the Mughal nobility built gardens on the main roads several miles away from residential areas, and that sub imperial commissions continued to fill the space. Dara Shikoh (1615–1659ACE) loved gardens. He used to spend much time in the gardens of Lahore, which he praised in his writings. Fatehgarh, a beautiful garden, which used to exist quite some time ago in the east of Lahore, in Gulshan Park, is even attributed to him (Rehman and Akhtar, 2012).

The lady’s sponsorship of gardens and landscape projects is somewhat unusual which was carried out throughout Mughal Empire. This raised several questions in the context of our own contemporary social environment. The ladies of the harem had many powers (both financial and administrative to take independent decisions or there was such education which gave more liberty to women to act independently as the ladies were writers, poets, philanthropists and patrons of gardens and important structures. Jahangir also mentioned two other gardens which were existed there from the time of Babur. These were the garden of Bika Begum (wife of Babur) and the Shahr- Ara (city adorning) garden made by ShahrBano Begum, daughter of Mirza Abu Said. This description points out that garden tradition was very much popular in Kabul during the reign of Babur. The answer to this question will be dealt with slightly later). During Babur’s reign ladies of the harem equally contributed to changing the landscape character of the cities of the Mughals (Rehman and Akhtar, 2012).
Towns and cities were transformed into garden cities by the end of Aurangzeb’s sovereignty. There were tomb gardens, pleasure gardens as well as residential gardens. And a variety of activities were performed both in royal and private gardens. Many gardens were built on the riverfront or close to some water body such as canal, springs, lake or waterfall. After Aurangzeb’s death, cities along the Grand Trunk Road went into decay. According to Manrique, “Lahore was subject to periodical invasion, pillage, and depopulation, and was thus reduced from a mighty city to a little more than a walled township in a circle of ruinous waste.” City land use became predominantly devoted to private gardens alongside ruined imperial gardens built during the Mughal period. City cultures changed with the development of gardens in urban areas, and gardens became part of the life of the commoners as well as the elite. This tradition extended even into the Sikh period. Eminabad, a town north of Lahore was eclipsed by a series of Sikh period gardens and more or less similar situation was found in other cities such as AlipurChatta, Gujranwala, and Wazirabad, Gujrat Attock etc., located along the Grand Trunk Road. British travelers praised the gardens of cities of the Subcontinent. According to Fra Sebastian Manrique Lahore is a handsome and well-ordered city, with large gateways and pavilions of various colors. Lahore, the second city of the Mughal Empire is ornamented with fine palaces and gardens, also tanks and fountains. The riches of the principal streethis shown to advantage, would equal the richest European mart. During the Mughal period, gardens served a number of functions. Many large-scale activities in these gardens also trickled down to the sub-imperial and finally to general public level(Rehman and Akhtar, 2012).

These memorials even exist now giving the distinction to Lahore a “City of Gardens” (Husain et. al., 1984). The Lahore city was of its splendor in the Mughal rule (1524 to 1712A.D). The architectural contribution of the last of the Great Mughals, Aurangzeb (1658-1707A.D), was the most famous monument Badshahi Mosque (1673) and the Alamgiri Gateway to the west side of the fort. The Badshahi Mosque was Aurangzeb’s legacy to the city. Mughal not only bestowed an enduring architectural heritage on the city but also laid the bases for its social organization. Unfortunately, most of these Mughal wonders were plundered during the Sikh rule of Punjab (Naqvi, 1972). Mughals not only bestowed an enduring architectural heritage on the city but also laid the bases for its social organization. Later developments followed by the Sikhs and the British followed the infrastructure laid down by the Mughals. A). Main features of Mughal Architecture: Mughal architectural monuments are a source of Lahore’s main distinction as a heritage city. Mughal buildings depict uniformity both in structure and character. They are characterized by their harmony,
proportion, balance, and symmetry. They used beautiful geometrical patterns in their buildings. The gardens were built on the ChaharBagh concept. Mughal architectural elements include bulbous dome (single and double), slender minarets and cupolas at the four corners, large central hall, massively vaulted gateways, arched crenellation and kiosks with chatris (cupolas). In fact, the Mughal architecture was the result of a merger of the indigenous and Persian Mughals, by utilizing the amazing skills of Indian craftsmen, who took their finished product in building to the highest degree of refinement, delicacy, and perfection. The Mughal ornamentation included the inlay work, pietra dura, calligraphy, kashikari, jali work and wood carving. b). Construction Materials by the Mughals: The materials used by Mughals were bricks laid with lime-mortar, red sandstone, different types of marble and wood. Large halls were spanned using the vaults and arches. But, the Mughal power declined in the eighteenth century, because of repeated invasions. At that time, Lahore was considered as a province and was ruled by provincial rulers with their own courts. Hence, the decade following the 1740s was considered years of unrest, as there were nine changes of governors.

The British government, subsequently making themselves strong on this land, did efforts to reserve the ancient buildings. In fact, they introduced buildings in “Indo-European” style in Lahore. Because of tree-lined wide residential streets and elegant white bungalows within spacious shady gardens, the Lahore Cantonment is considered as one of the best Cantonments of Pakistan. However, since Independence in 1947, Lahore has expanded rapidly towards south and east as the capital of Pakistani Punjab (Qadeer, 1983). The British had replaced the Mughals as the main power of governance, so inspiration for Indian architecture also originated in the British Isles; and at the same time in India, the architecture became closely related to what was happening in Britain, thus imitating the Neo-Romanesque, Neoclassical and Neo-Gothic styles (Boloji, 2014). Most of these types of buildings that imitated famous architectural forms in Europe were redesigned completely from illustrations (Goldsmith, 2007). After the dissolution of East India Company in 1857 and declaration of Queen Victoria as the Empress of India in 1876, there were two main streams of architectural discourse. First one was pure western style, neglecting the native style, to reflect the British imperialism (Montgomery Hall, Lawrence Hall, and Railway Station) inspired by the Greeks and the Romans. The second one was Indo European, in which the Indian elements were incorporated in the Western forms, to establish continuity and transition with the previous architecture of the region as seen in the buildings of High Court, Lahore Museum, and Town Hall etc. The Mughal architectural elements used were domes, minarets, columns, cupolas, brackets, Moorish and multi foiled arches, piers, pilasters, crenelated parapet, pavilions,
chatris incorporated with European elements, like pediments, dentils, corniced eaves, turrets, spires, Venetian and Florentine windows, truss roofs, stained glass, tracery etc. The architectural style debates were finally summed up by the architects of Public Works Department and Members of the Viceroy’s Council whereby the buildings to be used by the British were to follow the European Architectural Style and those by the Indians were to follow the Indo European (hybrid) style. The Industrial Revolution, and the advances in technology in the late nineteenth and early twentieth century also reflected their impact on the architecture of Lahore. Through the introduction of new materials, like iron, glass, concrete, pre-fabricated sections and their applications there emerged a change in the architecture of the buildings, their styles, and mode of construction. All these technological developments lead to the twentieth century, modern movements, like Art Nouveau, De Stijl, and BauHaus etc. Subsequently, debates were initiated to encourage the exploration of connections between nature, materials, construction, industry, and society which can be depicted in Government Officers Residences (GOR) in Lahore in 1939, based on Garden City Movements and the theme based construction of Assembly Hall building in 1939.

The photo of Lahore as the "Garden City" of Asia that had kept going until the start of the twentieth century. It has now changed and even ruined totally because of quick urbanization, neglectful arranging of new societies and unlawful or fast development of infringements around and inside the memorials and gardens. As the buildings within the gardens such as the tombs of nobility, pavilions, and canal system were left to deteriorate, the gardens were abandoned, the boundary walls of gardens were mercilessly pulled down and materials carted away to make room for urban development. The gardens were the worst sufferers of human vandalism, apathy, and neglect in the process of urban renewal or development and for the creation of city infrastructure. A picture that emerged after ruthless destruction and deterioration of original landscape was distressing indeed. Recent surveys and documentation carried out by a team of Pakistani architects of the University of Engineering and Technology, Lahore in collaboration with the Smithsonian Institution, U.S.A., glaringly show complete disappearance of most of the gardens and tragic loss of historical and cultural evidence not only in the immediate vicinity of Lahore city but also in the areas around. What has survived are only a handful of gardens, which were declared by the government of British India and later by Pakistan as “protected” monuments under the Antiquities Act (Mughal, 2005).
CONCLUSION

The cultural heart of Pakistan “Lahore” has a very old history and reigned by the Mughal Empire, and later ruled by the British Government in the Indian Subcontinent and became part of Pakistan after the independence of Pakistan and India. Lahore remained a city of special importance to many Mughal rulers because of its moderate climate and location between Kabul and Delhi. All of them from the first Mughal emperor, Babur, to the last sovereign of Mughal, Shah Jahan, tried to make it more and more beautiful city of gardens in the sub-continent. The gardens of the 17th century had the most lasting imprint on the form and identity of Lahore. They influenced subsequent patterns of garden design. The importance of Mughal gardens in Lahore is thus jointly regional and global, historical and spatial, spiritual and political, natural and cultural, aesthetic and functions.

The British government, after making themselves strong on this land, did efforts to preserve the ancient buildings. The photo of Lahore as the "Garden City" of Asia was preserved until the start of the twentieth century but now changed and even ruined totally because of quick urbanization, neglectful arranging of new societies and unlawful or fast development of infringements around and inside the memorials and gardens. These historical monuments should be preserved and saved as historical heritage.

ACKNOWLEDGMENTS

We are very grateful to the Library of the Beijing Forestry University for letting us to have a full access to their archives and English books section.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES


Bakar, I. 2000. Sejarah & Tamadun Islam di India [Islamic History and Civilization in India]. Bangi: Department of Arabic and Islamic Civilization Studies, Faculty of Islamic Studies, Universiti Kebangsaan Malaysia.


Dar, S.R. Historical Gardens of Lahore, Ferozsons Limited, the Mall, Lahore, Pakistan, 9-14, (1982).


Latif S. M., (1892). Lahore, history and Architecture Remains and Antiquities Published, 1956-57, p-251
Thornton, T. H. & Kipling, J. L. (1860), (reprint 2002). Lahore as it was, Travelogue, 1860. National College of Arts Publication, Lahore


