

TAJ MAHAL AND ITS UNIQUE GARDEN

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Taj Mahal is considered to be the greatest architectural achievement in the whole range of Indo-Islamic architecture. The uniqueness of the Taj Mahal lies in some truly remarkable innovations carried out by the garden planners and architects of Shah Jahan. One such genius planning, for the first time in Islamic India, is the placing of the main mausoleum at one end of the quadripartite garden rather than at the exact centre, as had been the practice previously. The planners, with this one stroke of genius, added rich depth and perspective to the distant view of the monument. The centre of the *chahar-bagh* where the main edifice supposed to occupy was earmarked by the designers for a pool (*hauz*) containing five fountains in a raised marble platform. The corners of the pool are inset with a pattern of organic lobes, waves and volutes. Muhammad Salih Kambo eulogized the pool that it held the water of the celestial *Kausar (Kauthar)* the Prophet's river in Paradise and provided with fountains all around it spouting jets of water-illuminating, as it were, the world-illuminating day.¹ The Mughal gardens were formed mainly by following the Timurid-Persian scheme of the walled-in garden, sub-divided ideally, but not necessarily, in to four quarter by raised walk ways (*Khiyaban*) and canals (*nahr*).² The idea of constructing wall around the garden is to keep out the surrounding desert with its dust-laden winds and to give privacy and protection. The watercourses intersect in the centre of the garden represent the four rivers of life. In many religions the garden is considered to be the symbol of paradise. One of the oldest reference to the garden as paradise is found in the

¹ Muhammad Salih Kambo, "Amal-i-Salih or Shah Jahan Nama, edited by Ghulam Yazdani, Bibliotheca Indica, Calcutta, 1912-46; Rev and edited by Wahid Quraishi, Vol II, 1967-72, pp.380-82

² Planning gardens is not a new practice in Indian soil, but they are all of informal gardens associated with temple, palaces, and also for the public utility purposes. There are lots of literary and epigraphically evidences to show the existence of huge gardens with different flora right from the early times

Sumerian cuneiform tablet of twenty-eighth centuries BCE.³ The word “Paradise” is derived from the Persian word *pairidaeza* means walled (*pairi*), garden (*daeza*) and the Greek/ Latin word “*paradeisos*”.⁴ For Islam, paradise is literally a garden watered by streams.⁵

The adoption of the cross-axial *chahar bagh* concept traces back to the 6th century BCE in the palace of Cyrus, the Great at Pasargadae in Iran, the first monumental capital of the Achaemenid Empire⁶ This garden pattern again appeared in the 8th century in the Umayyad palaces at Rusafa in Syria. The garden of the Balkuwara palace, built in the 9th century during the Abbasid period at Samarra in Iraq is another notable example of early *chahar-bagh*. The large well defined cross-axial royal gardens of Sigiriya in Sri Lanka, laid out in the 5th century CE, appeared to be the earliest such garden in South Asia.⁷ The Sikandar Lodi’s tomb at Delhi is the earliest existing *chahar-bagh* garden within enclosure in India, although in an elementary form. Followed this there are many *chahar or char bagh* gardens within enclosure founded during the Mughal time.⁸ Babar, who

³ Samuel Noah Kramer, *From the Tablets of Sumer*, Indian Hills, Colorado, 1956, pp.172-73; Neeru Misra and Tanay Misra, *The Garden Tomb of Humayun-An Abode in Paradise*, Aryan Books International, New Delhi, 2003, p.93

⁴ Elizabeth, B. Moynihan, *Paradise as a Garden: In Persia and Mughal India*, George Braziller, New York, 1979, p.1; Jose Pereira, *Islamic Sacred Architecture-A Stylistic History*, Books & Books, New Delhi, 1994, p.239

⁵ *Koran* , Sura.55

⁶ David Stronach, “The Garden as a Political Statement: Some Case Studies from the Near East in the First Millennium B.C.,” *Bulletin of the Asia Institute*, N.S.No.4, 1990, pp.171-80

⁷ Senake Bandaranayake. “Among Asia’s Earliest Surviving Gardens: The Royal and the Monastic Gardens at Sigiriya and Anuradhapura,” *Historic Gardens and Sites, Sri Lanka, National Committee of ICOMOS*, 1993, pp.1-36

⁸ The extend Mughal *char bagh* gardens are Humayun’s Tomb, Delhi; Akbar’s Tomb, Sikandra, Agra; Tomb of I’timad-ud-Daulah, Agra; Mehtab Bagh. Agra; Taj Mahal, Agra; Anguri Bagh, Agra Fort, Agra; The Garden at Rajauri; Tomb of Jahangir, Shadera near Lahore; Bagh-i-Fayz Bakhsh (1634), Salimar Garden, Kashmir; Saftar Jang Tomb, Delhi and others

inherited the garden tradition from Timur, was in fact the first Mughal ruler made serious attempts to found typical Timurid-Persian gardens in India. Babar in his Memoirs describes about his efforts for creating gardens at Agra in the following words, "*Shortly after coming to Agra, I passed the Jumna with this object in view, and examined the country, to pitch upon a fit spot for a garden. The whole was so ugly and detestable, that I re-passed the river quite repulsed and disgusted. In consequence of the want of beauty and disagreeable aspect of the country, I gave up my intention of making a char-bagh; but as no better situation presented itself near Agra, I was finally compelled to make the best of this same spot. First of all I began to sink the large well which supplies the baths with water; I next fell to work on the piece of ground on which are the ambli (tamarind tree), and the octagonal tank; I then proceed to form the large tank and its enclosure;I next finished the garden of the private apartments, and the apartments themselves, after which I completed the baths. In this way, going on, without neatness and without order, in the Hindu fashion, I however produced edifices and gardens which possessed considerable regularity. In every corner I planted suitable gardens; in every garden I sowed roses and narcissus regularly.*" The early gardens of the Mughals were almost purely Persian. The rills in the Humayun tomb at Delhi are narrow on the Persian pattern, whereas they have broadened out to eighteen feet at Taj Mahal. Another Persian feature which persisted in the early Mughal gardens was the underground room.

The Mughal gardens were planted with decorative and sweet-smelling flower trees and aromatic herbs and fruit trees. Peter Mundy gave the details of the garden he saw at Agra during his visit there in the following words, "*the walkways were lined with cypress trees, and the squares of the subdivisions were planted with groves of trees, as Apple trees, Orange trees, Mulberrie trees, etts, Mango trees, Caco (Cocoanut trees), Figg trees, Plantan trees,....In other squares are your (i.e. English) flowers, herbes, etts, whereof Roses, Marigolds,...to bee seene; French Mariegolds abundance; Poppeas redd, carnation and white; and divers other sortes of faire flowers which wee knowe not in our parts, many groweing on prettie trees, all watered by hand in tyme of drought, which is 9 monethes in*

the yeare.”⁹ Abu Talib Kalim, the court poet of Shah Jahan mentions a list of plants and trees grown in one of the royal garden at Agra. They are: *gulbun* (rose bushes), *lala* (tulips or red poppies)¹⁰ *gul-I- khorshid* (sunflowers), *nargis* (narcissus), *gul-I hazara* (double poppy), *khiri* (gilli flowers:), *taj-I khorus* (cockscombs), *gul-I ja’fary* (marigolds), *keora/kewrah/kiyo’ra* (fragrant screw-pine, a small tree with fragrant flowers), *saman* (jasmine bushes), *sarw* (cypresses), *bed* (willows), *champa* (golden champ, a tree of the magnolia family, which bears a fragrant yellow flower): *maulsari* (bullet wood, a tree with jasmine-like flowers), and *nim* trees (neem).¹¹ The plant and tree names mentioned in the *Memoirs of Babar, Jahangir* and *Ain-i-Akbari* are: *Amla* (fruit tree), *Anbah* (Mango), *Anbli* (Date tree), *Badhal* (deciduous tree), *Ber*, *Chikda*, *Chirunji* (deciduous tree), *Gular*, *Jaman*, *Jasun*, *Kadhil*, *Kamrak*, *Kanir*, *Karaunda*, *Kardi*, *Kela*, *Khirmi*, *Khurma*, *Kiura*, *Limu*, *Mahuwa*, *Naranj*, *Nargil*, *Paniyala*, *Qawun*, *Sangtara*, *Tar*, *Turunj*, *Yasman* (Jasmine)¹² *Bid Mulla* (Willow), *Chambeli* (Jasmine), *Champa*, *Chenar*, *Keora*, *Ketki* or *Ketaki*, *Mulsari*, *Rae Bel* (Jasmine), *Safidar*, *Sarw* (Cypress)¹³ *Bholsari*, *Chaltah*, *Chambeli*, *Champa*, *Gulal*, *Gul- I -Za’faran* (Saffron), *Juhi*, *Kapur Bel*, *Karnah*, *Ketki*, *Kewarah*, *Kuzah*, *Mongra*, *Nargis*, *Niwari*, *Padal*, *Raibel*, *Sewti*, *Singharar*, *Tasbih-i-Gulal*, *Violet*.¹⁴ Some of the fruits referred to in the Mughal records are: Almond, Apple, Apricot, Cherry, Citron, Coconut, Date,

⁹ Peter Mundy, 1914/1991, Vol.2, pp.214-15; Ebba Koch, *The Complete Taj Mahal and the Riverfront Gardens of Agra*, Bookwise (India) Pvt Ltd, Delhi, 2006, p.138

¹⁰ The Tulip is native to Central Asia. The word “tulip” derives from the Persian word “*dulband*,” meaning turban or turban-shaped. In modern Iran the flower is a symbol of martyrdom and it is portrayed on the tombs of those killed in the Iran-Iraq war. Diana & Michael Preston, *A Teardrop on the Cheek of Time The Story of the Taj Mahal*, 2007, p.213

¹¹ Abu Talib Kalim, *Diwan*, edited by Partau Bayza’l, Tehran, 1336 sh/ 1957, pp.346-51

¹² *The Babur Nama: Memoirs of Babur, Prince and Emperor*, Translated, edited and annotated by W.M. Thackston, Washington, D.C./ New York, 1996

¹³ *The Jahangir nama or Memoirs of Jahangir*, Translated, edited and annotated by Wheeler M. Thackston, Oxford University Press, New York, 1999

¹⁴ *Ain-i-Akbari*, 3 vols., Oriental Books Reprint Corporation, New Delhi, 1977-78 (reprint)

Fig, Grape, Guava, Lemon, Lime, Mango, Melon, Mulberry, Orange, Peach, Pear, Pineapple, Plantain, Plum, Pomegranate, Quince, Walnut and Watermelon.

Notwithstanding the garden tombs of an embryonic form built in India prior to the Mughals at Delhi namely the Tomb of Mubarak Shah Sayyid in 1433-34¹⁵ and Sikandar Lodi's tomb, it find its fullest expression only in Mughal period. The garden, which symbolizes paradise, was well integrated in the architecture with water ways, fountains, pavilions and perimeter walls in thirteenth century itself in Persia. However the paradisaical symbolism which the Persian had first applied to the mosque was extended to the tomb by the Mughals. Burial in the garden was treated as a kind of early anticipation of paradisaical bliss. The Mughals perhaps derived the garden tomb concept from the Mongols, who built by themselves for their own tombs and used the surrounding gardens as pleasure garden during their lifetime.¹⁶ Although the grave of Timur, the illustrious ancestor of Mughals, in Gur-i-Amir (1400-1404) at Samarqand located in large enclosures with garden planted informally, it is not in a formal garden but designed mainly by following the pattern of the spacious royal garden which encircled the major cities of Timur period. The tombs are in fact formed one of the major architectural expression of the Mughals and many marvellous tombs were constructed during this period although some of the rulers demonstrate orthodox minimalism.¹⁷ Taj Mahal is the crown of all the Mughal tombs set in the garden and the Persian concept of an ideal, paradise-like garden is perfectly embodied here. The following passage inlaid in black marble on the gate establish the paradisaical nature of the Taj complex and its garden.

O thou soul at peace

¹⁵ Neeru Misra and Tanay Misra, 2003, pp.102-03

¹⁶ Sylvia Crowe and Sheila Hayward, *The Gardens of Mughul India: A History and Guide*, Vikas Publications Pvt. Ltd., Delhi, 1973, p.42

¹⁷ The epitaph, engraved on a slab above grave of Jahanara, the daughter of Shahn Jahan, in the Dargah of Shaikh Nizam-ud-din Auliya complex at Delhi reads, "*Let nothing cover my grave but green grass, for the verdant turf is sufficient covering for the humble stranger.*"

*Return thou into thy Lord, well pleased
And well-pleasing unto Him
Enter thou among My servants,*

The Taj garden was originally planted with flower beds and trees of different varieties. The flowers like red poppies and red lilies appear to have planted along with others plants as they had a connotation of suffering and death in Persian and Turkish literature. The iris also has a funerary connotation in Kashmir and elsewhere in Islamic world and thus considered as an appropriate flower to be planted in a tomb garden. Muhammad Salih Kambo states that the paradise-like garden (*bagh firdaus-a'in*) was abounding in various kinds of fruit-bearing trees and rare aromatic herbs. Verily, its environs are like the black mole on the forehead of all the world's pleasure spots and each of its bounty-laced flower-beds is pleasing and heart-captivating like the flower-beds of the garden of the keeper of Paradise (*rizwan*). Its attractive green trees are perennially fed with the water of life.¹⁸ Francois Bernier describes the details of the Taj garden as follows, "*to the right and left of that dome on a lower surface you observe several garden walls covered with trees and many parterres full of flowers..... Between the end of the principal walk and the dome is an open and pretty large space, which I call a water- parterre, because the stone on which you walk, cut and figured in various forms, represent the borders of the box in our parterres. .From the middle of this space you have a good view of the building which contains the tomb.*" The *chahar bagh* pattern of the original Taj garden was shown in the Plan of Taj Mahal including the bazaar and the *caravan sarai* prepared for the first time during the British period in 1789 by Thomas and William Daniell and published in 1801. However, the detail plan of the garden, which had been sub-divided into many squares is shown in the drawing prepared in 1828 on the order of Colonel Hodgson, Surveyor-General in India and published in 1843 in the *Journal of Royal*

¹⁸ Muhammad Salih Kambo, Vol II, pp.380-82

Asiatic Society.¹⁹ In the Plan of the Taj Mahal complex drawn perhaps by an Indian artist during the early 19th century and presently kept in the Taj Museum, the names of some of the plants like pineapple (*annas*) or pomegranate (*anar*), banana (*kila*), orange (*sang-tara*), pomelo (*chakotra*), lemon (*limu*), guava (*amrud*), apple (*seb*), etc are inscribed in Persian script. Originally the garden seems to be of sunken garden as it was one of the salient features of the Mughal gardens. The garden of the Akbar's tomb is the typical examples of existing sunken garden of Mughal period in Agra. The present Europeanized lawns were laid only in the late nineteenth century during the restoration work undertaken as per the direction of Lord Curzon. In 1899 he ordered for the re-plantation of the cypress trees in a single row on either side of the main walkway in the middle of the beds and many other restoration works to the garden were also continued in the subsequent years.²⁰ The old earthenware conduits were replaced by cast iron pipes and a water channel was constructed from the Agra canal to the MacDonnell park (Shah Jahan park) and from there to the Taj Mahal for irrigating the garden.²¹ Lord Curzon claimed in his reported to the Legislative Council at Calcutta in 1904 that the water channels and the flower-beds of the garden were restored as per original with the help of the old plans.²² Before the restoration the garden was overgrown with various kinds of trees. The accounts of the travellers of 18th and 19th centuries mentioned about the existence of various types fruit trees in Taj garden in addition to other plants and the fruit harvesting from the garden was in vogue during the Mughal and the British period.²³ The present

¹⁹ Ebba Koch, 2006, p. 243

²⁰ E.B. Havell in a letter dated 5th November 1903 criticized Lord Curzon's order for the re-plantation of the cypress tree. He mentioned that the cypresses were originally planted outside the geometrical flowerbeds. Ebba Koch, 2006, p. 252 (footnote, No, 112)

²¹ *APRASI NW&O, 1900-01: Introduction by W.H.Nightingale, pp.2-3*

²² Ebba Koch, 2006, p.138

²³ H. H. Cole, *Preservation of National Monuments: First Report of the Curator of Ancient Monument in India for the Year 1881-82, 1882*, p.5, entries 20 and 23; Annual Progress Report of Archaeological Surveyor, Northern Circle, 1905-06, p.20

garden is divided into four quadrants by two main walkways (*khiyaban*) and each quadrant in turn sub-divided into four sub-quadrants by narrow walkways. The main walkways consist of swallow canals (*nahr*) which contain a line of fountains (*farwara*) in it.²⁴ The divided garden is meant to symbolize the grounds of paradise and the water channels as the river. This effect is heightened here because the channels are wider than that of other Mogul tombs, evoking a greater sense of actual rivers.

The Mughal engineers were genius in constructing excellent irrigation system. Embedded in their mind with the Persian-Transoxania traditions, which was rooted in the desert and oasis region, they were well versed in the water management and meticulous utilization of water. Taj Mahal originally had sophisticated waterworks to irrigate the garden and an elaborate water channel system was created in the Khan-i-Alam complex to the western side of Taj Mahal.²⁵ Towards the west of Taj Mahal, the water from the Yamuna river was diverted into a funnel-shaped intake or silt chamber erected closed to the river and after the settlement of the silt there the water was taken to the huge oblong storage tank in the Khan-i-Alam through a wide water channel which runs parallel to the western wall.²⁶ Highly raised slanting ramp was constructed on the arches to the western side of the water tank with series of seven pulley points, overlooking the tank. The inclined ramp was meant for hauling the leather bucket upward by driving the yoked oxen downhill. The ox-hide bucket is lifted by a simple pulley and drawn by yoked oxen to discharge the tank -water into the canal system on the top. The bucket is of complete hide of an ox gathered at the four corners with lanyards, the water resting in the sag of the leather as it is drawn upwards from the well. This is the typical Indian method of lifting the water and not familiar to the

²⁴ There are twenty-four fountains on each side of the central tank.

²⁵ D. Dayalan, *Taj Mahal and Its Conservation*, Abhishek Prakashan, Delhi, 2009, pp. 16-17

²⁶ The funnel-shaped tank was scientifically cleared by the Archaeological Survey of India in 1981-82.

Mughals.²⁷ The lifted water through this method was allowed to flow through the raised channels on the aqueduct wall by gravitational force and collected in the cisterns. The water in the cisterns was in turn lifted perhaps by lever method known as *shadoof* or manually and stored in the tanks constructed at the top most point on the gateway of the Khan-i-Alam. From these tanks the water was let out downwards through the earthenware pipes which run to various parts of the garden. The conservation works carried out by Colonel Rowlett in 1860s reveals that the earthen pipes were embedded in solid masonry about 1.8 metre below the ground.²⁸ The Mughal aqueduct was in operation manually till 1903. The earthenware pipes were replaced with cast-iron pipes as per the direction of Lord Curzon and the irrigation network of Taj garden was connected to the reservoir in the MacDonnell Park.²⁹ The gardens and the central causeway running east and west were restored to their ancient form and the filled up water channels were reconstructed and converted into flower beds. The fountains around the marble tank in the centre of the garden were also replaced in the same year.³⁰ The fountain system of the central tank consisted of a copper vessels connected through copper pipes with the main supply pipe.³¹

²⁷ Babar expressed his detestation of this system as, "*laborious and filthy it takes one person to lead the on and another to empty the water from the bucket. Every time the ox is led out to pull up the bucket and then led back, the rope is dragged through the ox's path which is sullied with ox urine and dung.*"

²⁸ Colonel Rowlett, "Report on the Taj at Agra No.5 Dated Agra 25th April 1867 to H. W. Dashwood, Collector of Agra," from the *Records of Government North Western Provinces*, 2nd ser. Vol. I, 1869, pp.70-74

²⁹ *ASIAR*, United Provinces Circle, 1902-03: Report by A. C. Polwhele, p.15

³⁰ *ibid.*, pp.70-73

³¹ *ibid.*, p.15 and pp.70-73

