

## ANALYZING THE FEATURES OF MUGHAL GARDEN DESIGN: CASE OF TAJ MAHAL, AGRA, INDIA

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### Graphical abstract



### Abstract

Islamic garden is a place for rest and reflection, and a reminder to paradise. The themes of an Islamic garden are shade and water element. The Islamic Gardens are influenced by the historic Islamic Garden that majority from Spain, Iran, and Mughal India. Those are among the recognized gardens design during Islamic Civilization and remain as a legacy of the influential era of Islamic rulers. However the gardens have different culture influences that make each of the gardens are different in their design. This paper is to analyzing the features used in the garden design of Mughal Garden: Taj Mahal, Agra, India. The study used a content analysis and observation of features used in the design for the garden. The outcome of this study will enhance the understanding and appreciation towards Islamic garden design as an Islamic cultural heritage for the next generation.

Keywords: Islamic Garden, Mughal Garden, Taj Mahal

### Abstrak

Taman Islam adalah satu tempat untuk berehat dan renungan, dan peringatan terhadap syurga. Tema taman Islam adalah berasaskan teduhan dan elemen air. Taman Islam telah dipengaruhi oleh Taman Islam yang bersejarah dari Iran, Sepanyol dan Mughal India. Taman-taman tersebut diiktiraf dalam Tamadun Islam dan kekal sebagai warisan era pengaruh pemerintahan Islam. Walau bagaimanapun taman-taman tersebut mempunyai pengaruh budaya yang berbeza yang membuatkan setiap rekabentuk berbeza. Kertas kerja ini adalah untuk menganalisis ciri-ciri rekabentuk yang digunakan untuk membuat kandungan dan pemerhatian terhadap ciri-ciri rekabentuk taman tersebut. Hasil daripada kajian ini akan meningkatkan pemahaman dan penghargaan terhadap rekabentuk taman Islam sebagai warisan budaya untuk generasi akan datang.

Kata kunci: Taman Islam, Taman Mughal, Taj Mahal

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## 1.0 INTRODUCTION

As suggested by Taib and Rosli Islamic garden is a place of rest and reflection, and a reminder of paradise [9]. The theme of traditional Islamic gardens are water and shade. The Islamic garden should

design with specific intention in mind, applying certain ideological principle and objectives rooted in Islamic faith and the Muslim culture, using distinct element [6]. However, Quranic paradise imagery provides a foundation for understanding Islamic garden as clearly shared by established Islamic

garden such as the garden of Persia, Moorish Spain and Mughal garden India. According to Yeoman majority of Islamic garden have influenced by the historic Islamic or traditional Islamic gardens that majority influenced from Iran, Spain and Mughal, India [11]. Traditional Islamic garden applied the typical design element of an Islamic garden for instance the courtyards, water features, trees, flower and calligraphy on walls.

Mughal gardens were first introduced by the Mughal emperor Babur. The first Mughal gardens were established in Afghanistan by Mughal Emperor Babur (1483-1530), a resident of Varanasi in contemporary located in Uzbekistan. Babur has a feeling for the landscape in their home country and their absence in the subcontinent so obviously contradictory that he was involved in construction gardens in the subcontinent. Before arriving in mainland subcontinent Babur had taken advantage of the natural flow of water to create gardens, but in the plains of India had followed a different approach. Therefore he brought Persian wheel system to supply water to Charbaghs which he described at length in his autobiography.

The gardens are not only designed as a work of architecture, but conduct activities that change the culture of historic towns through development long process. After the death of Babur's son Humayun was proclaimed ruler of Hindustan, then continued by his grandson Akbar (1542-1605) and the great grandson Jahangir 1569-1627. The reign of Shah Jahan (1628-1658) is considered has brought the climax to Mughal gardens buildings in cities along the Great Trunk Road.

Shah Jahan was a great patron of architecture commissioned buildings and gardens everywhere in his kingdom. The Shalimar Garden was built by Shah Jahan in Lahore in the east of Grand trunk Road constitutes a classic example of where architecture, design landscape and hydraulic systems can be seen at their best. While there Taj Mahal is regarded as one of the greatest achievements in architecture,

Because of their natural beauty that exists, the gardens have been selected by the Mughals to perform various activities. These activities range from the personal to the family of official functions. Some applications, including large festivals such as nauruz, mushaira (poetry recital), festivals, meetings and Sufi Saints, birthday parties and fighting games. The gardens are also used as an official halting places, daulatkhana-e-khas-o-aam; while the park is exclusively reserved for women (Zenana khana) and provided with additional facilities, such as a hammams. There is no strict distinction between the gardens and buildings in Mughal gardens, each flowing seamlessly into another, but in particular there gardens palace isolation function space, and areas designed for court ceremonial increasingly separated from the residential quarters [3]. The history of Mughal Garden are quoted from Abdul Rahman and Munazzah Akhtar from The Mughal Gardens

Along The Grand Trunk Road in Pakistan and Afghanistan.

## 2.0 LITERATURE REVIEW

Taj Mahal is regarded by many as the finest example of Mughal architecture and is widely recognized as "the jewel of Muslim art in India". It is one of the world's most famous symbol and rich history in India. As a UNESCO World Heritage Site in 1983, the Taj Mahal attracts some 3 million visitors a year. The complex is located in the vicinity of the 300-meter (980 feet) square Charbagh or Mughal garden. Taman use raised lines that divide each of the four quarters of the garden into 16 sunken parterres or flower bed [1]. Halfway between the tomb and gateway in the middle of the garden is a raised marble water tank with a reflecting pool on a north-south axis to reflect the image of the tomb. Raised marble water tank is called al Hawd al-Kawthar reference to "Tank of Abundance" promised to Muhammad [4].

Most Mughal Charbagh is rectangular with a tomb or pavilion in the center. Taj Mahal garden is unusual in that the main element, the tomb, located on the edge of the park. With the discovery of Mahtab Bagh or "Moonlight Garden" on the other side of the Yamuna, the interpretation of the Archaeological Survey of India is that the Yamuna river itself was incorporated into the design of the park and intended to be seen as one of the rivers of Paradise [10]. The similarity in layout and architectural features with the Shalimar Gardens suggest both parks may have been designed by the same architect, Ali Mardan [2]. Early accounts of the garden describe its profusion of vegetation, including abundant roses, daffodils, trees and fruits. As the Mughal Empire declined, the Taj Mahal and parks also declined. At the end of the 19th century, the British Empire controlled more than three-fifths of India and assumed the management of Taj Mahal [8].

We can roughly divide the complex into four areas: the area of the four main market known today as Taj Ganj, grounds to the main park in the tomb; graves and other buildings in the main garden, and Mahtab Bagh across the river. Taj Ganj held in each of the four corners, large the market is accompanied by a variety of stores that goods have been praised by the Persian and panegyrist near contemporary European tourists. When the gates of the Taj Ganj still alive, most of The original construction has been changed or modified to meet the needs of backpackers and local residents. Grounds is a large area before the entrance to the cemetery by double row of shops that emanated from the east and west entrances, income which support maintain complex. Two corner inscribed small cemetery grounds hold, while two corner served as a home to the attendant at the complex [7].

Taj Mahal, one of the 26 world heritage sites in India, was built by Mughal emperor Shah Jahan (1628-1658) in memory of his beloved queen [12, 13]. The tomb is located on the right bank of the river Yamuna at the point where it takes a sharp turn and flows eastward .Masons, stonecutters, inlayers, sculptors, painters, calligraphers, dome- builders and other artisans were requested from all over the empire and also from Central Asia and Iran [14,15].



### 3.0 METHODOLOGY




Case study method had been used broadly in landscape education and research that can be used to critically document and evaluate projects and issues [5]. This study utilized a content analysis from several case studies. The Islamic garden chosen for a case study review is the Taj Mahal, Agra, India. The Taj Mahal is a white marble mausoleum located on the southern bank of Yamuna River in the Indian city of Agra.The review will be focus on observation of landscape elements and features of the garden design.

### 4.0 RESULTS AND DISCUSSION

Table 1 shows the elements and features of the garden design of Taj Mahal, Agra, India

**Table 1** Elements and features of the garden design of Taj Mahal, Agra, India

	<p>Taj Mahal reflection of buildings in canal may be referred to as the primary function of the park as a place for rest and reflection.</p>
	<p>It visibly crops were planted symmetrically. The park is laid out with trees and fountains Geometric patterns used as a design element. Each plant and the existing patterns showed a balance in which they are arranged regularly and symmetrically. Water fountain are the main source of non-stop water flowing</p>
	<p>The park has four lawn, and each has sixteen flowerbeds. The use of water as a basic element in the design was to provide peace and</p>

	<p>relaxation. Canal that divides the garden into quadrants seen as the rivers of paradise. Use of shady green trees and bushy and water element can be related to the main theme of Islamic garden are use water and shade.</p>
	<p>Taj Mahal is recognized as a major gateway Darwaza-i-Rauza or "gate of the tomb". With vertical symmetry, the main entrance of the Taj Mahal stands bordered by Arabic calligraphy and verses from the Koran holly</p>
	<p>Calligraphy Taj Mahal mainly composed of verses and passages from the Holy Quran.</p>

### 5.0 CONCLUSION

The construction of the Taj Mahal is a tremendous achievement for the Islamic culture in the past. Through the observation made, although Taj Mahal is produce intended to commemorate the greatness of a relationship but, each design is produced by following such a guideline from holly Quran to produce an Islamic garden. The park is laid out with trees and fountains. Charbagh garden design inspired by Persian gardens, was introduced to India by Babur, the first Mughal emperor. It symbolizes the four flowing rivers of Jannah (Paradise) and reflects the Paradise garden derived from the Persian paridazea, meaning 'walled garden. In mystic Islamic texts of Mughal period, Paradise is described as a garden lot with four rivers flowing from a central spring or mountain, separating the garden into north, west, south and east. Basically Taj Mahal garden design is based on gardens that have been expressed in the Quran where some aspects have been established such as the use of water and shading elements as the main theme. Moreover, the design of the water canal and fountains of the Taj Mahal are some of the element that present in the

garden according to Quran. In addition, the art of Islamic calligraphy is also used as a pattern that is placed on the walls as reminders for each verse has been revealed by Allah. In accordance with the real purpose of the Islamic garden is a place to rest and reflection and reminder of paradise

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### References

- [1] A.C. Sparavigna. 2013. The Gardens of Taj Mahal and The Sun. *International Journal of Science*. 2(11): 104-107.
- [2] Allan, John. 1958. *The Cambridge Shorter History of India* (First ed.). Cambridge: S. Chand. 318.
- [3] Abdul Rahman, Munazzah Akhtar. 2007. The Mughal Gardens Along The Grand Trunk Road in Pakistan and Afghanistan. Retrieved from [www.middleeastgarden.com](http://www.middleeastgarden.com) on 30<sup>th</sup> Aug 2015.
- [4] Begley, Wayne E. 1979. The Myth of the Taj Mahal and a New Theory of Its Symbolic Meaning. *The Art Bulletin* 61.
- [5] Francis, M. 2001. Case Study Method of Landscape Architecture. *Landscape Jnl.* 20(1):15-29.
- [6] Hamed, R. 2011. *Islamic Spain*, Peguin.
- [7] Koch, E. 2006. *The Complete Taj Mahal*. United Kingdom. Thomas and Hudson pub.
- [8] Royals, S. 1996. *Our Global Village – India*. India: Lorenz. Educational Press. 7.
- [9] Taib, M. Z. M. 2009. Seminar Paper 'Islamic Architecture Evolution: Mosque Design'. International Institute of Islamic Thought.
- [10] Wright, Karen. 2000. *Works in Progress*. Discover Waukesha, WI, USA: Kalmbach Publishing.
- [11] Yeoman, R. 2006. *The Art and Architecture of Islamic*. Cairo. Garnet Pub. Ltd.
- [12] A. Nayeem, A., N. Utaberta, M. A. Othuman Mydin, M. Y. M. Yunos. Redefining Islamic Garden: Comparative Analysis Of Approaches, Ideas And Design Framework. *Jurnal Teknologi*. 75(9): 77-81.
- [13] R. Arinah, M. Y. M. Yunos, M. A. Othuman Mydin, N. K. M. Isa, Noor Fazamimah Mohd Ariffin, Nor Atiah Ismail. Building the Safe City Planning Concept: An Analysis of Preceding Studies. *Jurnal Teknologi*. 75(9): 95-100.
- [14] A. S. Fatimatul, M. Y. M. Yunos, I. Sumarni, Noor Fazamimah Mohd Ariffin, N. K. M. Isa. 2015. Establishing Elements Of A Good City Planning: An Analysis Of City Planning Theories. *Jurnal Teknologi*. 75(9): 101-105.
- [15] H. Mohd Amirul Hussain, M. Y. M. Yunos, M. A. Othuman Mydin, U. Nangkula, Nor Atiah Ismail. Assessment The Function Of Trees As A Landscape Elements: Case Study At Melaka Waterfront. *Jurnal Teknologi*. 75(9): 39-45.