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A Comparative Study of the Minarets of Contemporary *Jamia* Mosques and Mughal Era Historical Mosques of Lahore

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Abstract

Jamia mosque retains the status of a major landmark in any Muslim neighborhood since ages and remains one of the most important institutions of the Muslim world. A minaret, with its typical shape, has always been a significant architectural element of a mosque. However scientific, technological and industrial developments gave birth to new structural forms and shapes of the minaret, as well as changes in its positioning with respect to its design. It was observed that contemporary features and styles of minarets in Lahore were found to be different from the historic mosques of the Mughal era in terms of their form, construction methodology, structure support system, material finishes and positioning. Therefore, it was considered necessary to study the current developments. Thus, the objective of the current paper was set to compare the architectural features and styles of minarets of the Mughal era historical mosques with those of contemporary mosques built in the newly established housing colonies of Lahore. The research was also focused on the evaluation of changes in the stylistic features of the new minarets. Another objective was the identification of factors responsible for new developments and contemporary trends in the construction of these minarets. The results proved that some elements had been used continuously in the construction of minarets throughout the course of history; however, certain changes in trends were also observed. The study concluded that architectural features and styles of minarets constructed in contemporary mosques were different due to changes in materials, technological development and also due to the lack of skilled labor and time. Recommendations were given to ensure that architectural features and styles of contemporary minarets should continue to incorporate traditional Mughal architectural features and styles. There should be a properly developed statutory body of experts responsible for the preparation of sound legislation and appropriate guidelines for the systematic development of contemporary mosques.

Keywords: contemporary, features, form, historic, minaret, mosque, styles

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Introduction

1.1. Problem Statement

Significant new forms have been introduced in architectural features and styles of minarets in the contemporary mosque architecture of Lahore. These changes ought to be studied and analyzed.

1.2. Significance of Research

The objective of the current research was to focus on the study of architectural features and styles of minarets in the Mughal era mosque architecture and to evaluate changes in the stylistic features of minarets in the contemporarily built mosques of Lahore.

2. Research Methodology

The methodology to conduct the research comprised the following:

- i. Literature based study of historical mosques with respect to the stylistic and architectural features of their minarets. For this purpose, the etymology of various minarets, their types and forms, their parts and their historical context were studied. The minarets of three famous historical mosques namely Maryam Zamani Mosque, Wazir Khan Mosque and Badshahi Masjid were selected and studied.
- ii. Documentation and literature regarding the contemporary mosques of Lahore with respect to the stylistic and architectural features of their minarets was studied. The features of minarets were documented and studied in detail. The study method included photographic surveys of the relevant mosques as well.
- iii. Finally, a comparative analysis of the collected material about the minarets of the Mughal era historical mosques and contemporary mosques was carried out. Conclusions were drawn by identifying significant changes found through the comparative analysis.

3. Analysis and Discussion

3.1. The Minaret

3.1.1. Origin and evolution. The major architectural feature used principally for calling prayers is the minaret. Minarets were invented originally to announce the call for prayer. With the advancement in technology, speaker systems are now used to announce the call for prayer. Minarets are still regarded as a major component of mosques due to their strong symbolic meaning. A minaret is free

standing and taller than the rest of the building and acts like a landmark or focal point of any area (Urey, 2013).

The first minaret was erected under the caliph Muawiya (RA) in c.45/665, at the insistence of his governor in Iraq, as shown by the literature. It was a stone tower added to the mosque at Basra and it ultimately formed the most monumental feature of that mosque. Soon after, at the request of the governor of Egypt in 53/673, the mosque of Amr (RA) at Fustat was given a quartet of minarets. At the same time, many minarets were added to other mosques in Egypt. This is the textural reference as no evidence on ground survived to date.

Due to the spread of Islamic religion throughout the world, especially in regions with a different art and a different culture, the architectural features of mosques and minarets became diversified and symbolic. Egyptian minarets developed an incredibly complex and unique structure and the Iranian minarets were constructed as highly decorated plain brick structures. The minarets of the Great Umayyad Mosque are square in shape which evolved in Syria, while mosques in India and Turkey have spiral minarets and their shape and structure were borrowed from Persia. At the same time, the blending of cylindrical and polygonal styles is found in the rest of world (Lambourn, 1995).

3.2. Historical Context of the Minaret

Following is the account of historical minarets developed over a period of time.



i: The Damascus Minaret

Source:

https://en.wikipedia.org/wiki/Umayyad_Mosque#/media/File:Minaret_of_the_Bride,_Umayyad_Mosque_01.jpg



ii: The Post-Fatimid Minaret

Source:

<https://hiveminer.com/Tags/fatimid%20Cminaret/Recent>



iii: *The Qairiwan Minaret*

Source:

https://upload.wikimedia.org/wikipedia/commons/f/f9/Minaret_of_the_Great_Mosque_of_Kairouan%2C_Tunisia.jpg



iv: *The Almohad Minaret*

Source:

<https://quatr.us/islam/almoahad-architecture.htm>



v: *West African Minarets*

Source:

<http://www.traveladventures.org/content/africa/agadez-grande-mosquee01.html>



vi: *Minarets in Iran*

Source:

https://www.molon.de/galleries/Iran/Isfahan/Shah_mosque/img.php?pic=14



vii: Minarets in Ottoman Era

Source:

<https://www.eger.hu/hu/varos/tortenelemi-nevezetessegek/epitett-orokseg/c/minaret-12>



viii: South Asian Minaret

Source:

https://commons.wikimedia.org/wiki/File:Badshahi_Mosque_Minaret_7.jpg

Figure 1. (i, ii, iii, iv, v, vi, vii, viii) Different shapes of minarets

3.3. Minarets of the Historical Mosques of Lahore Constructed During the Mughal Period

Imperial Mughals utilized and maintained the combined features and characteristics of the Central Asian, Persian, Hindu and Buddhist styles of architecture. The synthesis so created was superb and unique and had its own distinct personality, ornate and handsome decoration with faience, faience mosaics, terracotta, red sand stone, marble and a variety of other stones (Khan, 1990).

The following historic mosques in Lahore constructed during the Mughal period were studied for this research.

3.3.1. Maryam Zamani Mosque (the Eid and configuration of Minarets).

The mosque Masjid Begum Shahi was built at the request of Emperor Jahangir for his mother Maryam Zamani and its date of completion was affirmed as AH 1023 or 1613 AD (Aziz, 2004). The mosque was later utilized by Ranjit Singh as an explosive industrial facility, which is the reason it came to be known in later times as 'Barud Khana Wali Masjid'. The mosque, along with the shops and houses appended to it, was restored to the Muslim community in 1850 (Khan, 1990).

At the eastern wall of the mosque, at its both northern and southern ends, square minarets are standing. In both of these minarets, stairs are accessed at the top of sanctuary. The stairs are not circular but they run in a north to south direction having access at the top. The square form of the minaret turns into an octagonal form with a dome at the top.

Every minaret is visually divided into three parts. The first part includes the entrance door in addition to stairs. In the second part, there is only an arch with brick masonry. The third and the last part of the minaret has a verandah designed with an arch opening on which the dome is placed. There was a pinnacle at the top of the dome which is now lost / destroyed. The minarets were built with small bricks mixed with lime mortar and plaster was used frequently. This is the basic form of the minaret which can depict the first form of minarets in Lahore (Shahzad, 2001).



i: Minarets of Maryam Zamani Mosque

Source:

<https://www.dawn.com/news/1163373>



ii: Minarets of Maryam Zamani Mosque

Source:

<https://www.dawn.com/news/1163373>

Figure 2. (i, ii) Minarets of Maryam Zamani Mosque

3.3.2. Wazir Khan Mosque (the Eid and configuration of Minarets). Among the architectural monuments of Lahore, Wazir Khan Mosque has a very significant position. It is one of the best specimens of Mughal architecture and it retains the unified features of Indo-Persian architecture. It has always been an interesting landmark that mirrors the soul and ability of the Mughal developers as well as that of their artisans who contributed in tile making, framework and/or wall painting to make the mosque not only a spiritual but also an appealing experience (Khan, 2008).

The most distinguishing feature of the mosque is its four minarets, majestically standing at the four corners of the courtyard. They have octagonal shafts with square bases. Each base measures 5.29 m a side and has a height of 8.20 m. It equals the height of the *hujras* and the facades of the smaller arches of the sanctuary. Each minaret, from its octagonal shaft to the top of the pinnacle, is 39 m high. These minarets are ornamented with decorative panels but they bear no trace of any other balcony except the one around their pavilion. From the square base which is quite massive, there emerges an octagonal shaft which is divided into vertical and horizontal panels and turns into a thin cornice, supporting the necking of the structure. It is topped by an upper pavilion which is crowned by a small cupola with three sphered finial and sloping eaves supported by smaller columns. The pavilion, which is octagonal in shape, has a diameter of 3.14 m and is surrounded by eight columns with fluted shafts as well as carved out bases and capitals. Small brackets support the eaves which create an impact of arched openings in these pavilions; otherwise, beams below the eaves are supported by columns and brackets in the corners give the impact of arches. All the minarets are alike in every respect albeit with a few exceptions. The bases, for example, of south-eastern and south-western minarets are adorned only on the sides facing the courtyard. Whereas the north-eastern and north-western minarets are embellished from all sides: the side visible from the courtyard and the other seen from the bazaar adjoining it. There are no intermediary balconies as we generally see in Mughal minarets. All four minarets are alike in construction and ornamentation.

The square base is divided into four sections. The lower most has a dado of 1.20 m high, forming a repeated geometric design exactly like the pedestals of the facade of the sanctuary. The rest of the base has nine recessed panels organized in three rows. The central horizontal row has three almost square panels which have conventional patterns with radially balanced floral designs. The upper and lower rows have vertical rectangular panels with pointed arches inside that are recessed a little bit. The upper most row has three vases; the central one is different in shape and color from the side ones which are identical in every respect. The central panel has a yellow and brown vase against white ground and the side ones have blue and white vases, each against a yellow background. In the lower row, the pointed arches retain tree motifs. Here also, the central panel is different from the side ones that are exactly alike. The central tree motif is depicted over the yellow ground and it's both sides have identical trees placed against white background. The spandrels of the pointed arches have arabesque designs. The base of the minaret is surmounted by a gallery supported by the brackets. The base is also provided with ornamental bands of traditional motifs, the lower most is dominated by an eight pointed star

and immediately below the balcony is the typical melon design of the parapets. There is a pavilion on the top and the lower portion is surrounded by grilles, placed alternately and flanked by small columns supporting the arched openings. It is surmounted by a sloping eaves.



i: Minarets of Wazir Khan Mosque

Source:

https://commons.wikimedia.org/wiki/File:Minaret_of_masjid_wazir_khan.jpg



ii: Minarets of Wazir Khan Mosque

Source:

<http://www.spotsclick.com/wazir-khan-masjid>

Figure 3. (i, ii) Minarets of Wazir Khan Mosque

Shown above is an octagonal stilt, decorated with a continuous band of melon pattern in blue, white and yellow. The octagon is topped by another stilt which is recessed, circular and then curved outward. The circular part and the curved part both are adorned with bands of considerable beauty. It is crowned by a dome, adorned with ribs in blue and white and topped by an inverted lotus finial (Khan, [2011](#)).

3.3.3. Badshahi Mosque (the Eid and configuration of Minarets). Badshahi Mosque in Lahore, which is sometimes called Alamgiri Masjid, was built during the period of Emperor Aurangzeb Alamgir in the years 1673 – 74 AD. The mosque was brought in its original condition after comprehensive conservation work conducted from 1939 to 1960 at the cost of 4.8 million rupees. The main entrance was still in the east and it was approached by a flight of 22 steps rising from three sides and ending at the red sandstone platform (Nadeem, [2006](#)).

The minarets of the Badshahi Masjid have three storeys and they stand on a solid plinth about 20 ft. high. The height of each minaret is 143+ ft., excluding the

top pavilions with their cupolas as well as their plinths. The pavilions of the minarets were restored recently as the original were damaged in 1840 earthquake. Red stone is installed in narrow steps which have access to the summit of the minarets, from where an interesting view of the surrounding is achieved. Although simple in their design and plain in their tall, tapering appearance, the minarets are conspicuous for their size and solidity and cannot fail to impress the observer.



i: Minarets of Badshahi Mosque

Source: <https://www.dreamstime.com/editorial-stock-photo-minaret-badshahi-mosque-lahore-punjab-pakistan-view-one-biggest-mosques-world-image90166203>



ii: Minarets of Badshahi Mosque

Source: <http://visitpak.com/the-badshahi-mosque-shahi-masjid-of-lahore/>

Figure 4. (i, ii) Minarets of Badshahi Mosque

However, it must be said that the architect considered very carefully that each minaret remains entirely proportionate to the size of the mosque (Chughtai, [1972](#)).

4. Minarets of the Contemporary Mosques of Lahore Built During the Last Decade

Many housing societies have emerged in Lahore during the past 30 years, such as Defense Housing Authority (DHA), WAPDA Town, Valencia Town, Bahria Town, Suckh Chen society, Lake City, and societies launched by Eden developers. It was observed that the city of Lahore has expanded in the south-east and south-west directions. The minarets of the newly constructed mosques are mostly benchmarks of these housing societies. However, the features and styles of the minarets were found to be quite different from the minarets of Mughal era historical mosques of

Lahore in terms of their form, material, structure support system, construction techniques, finishing and positioning. Significant changes have occurred in the architectural features and styles of minarets of the contemporary mosques of Lahore.

4.1. Criteria of Selection of Case Studies

For the purpose of this research, case studies conducted in the last decade were selected to study the architectural features of minarets in contemporary mosques of Lahore. The logical reasoning behind the selection of *jamia* mosques is that during the last few years, precisely after 2001, there has been a huge development in the construction industry and a lot of public / private housing schemes have been developed. This mushroom growth of housing societies, particularly in the said years, has generated multiple discussions in the field of architecture with reference to the adoption of various styles especially in mosque architecture, which generated the author's interest for conducting this research. The selected mosques included the *jamia* mosques from various societies enjoying a number of worshipers five times a day. These mosques are grand in size and are properly designed by different architects. They have been constructed using the latest construction technology and serve as the benchmark of their societies. The selected mosques are analyzed and described below in detail.

4.2. Grand Jamia Mosque Bahria Town – Lahore



i: View of the Minarets of Bahria Town Grand Mosque

ii: View of the Minarets of Bahria Town Grand Mosque

Figure 5. (i, ii) Views of the minarets of Bahria Town Grand Mosque

Grand Jamia Mosque of Bahria Town, Lahore is considered as one of the best examples of mosque construction in the 21st century. The mosque maintains the true essence of Islamic spirit blended with modern elements. Its creativeness was motivated by vernacular construction traditions using the Indo-Islamic spirit of

development. The mosque was designed by the renowned architect Nayyar Ali Dada and it was inaugurated at the occasion of Eid-ul-Adha celebrated on October 06, 2014. It can accommodate 70,000 worshipers, while it has the capacity of 25,000 worshippers indoors. The exterior of the mosque consists of 4 million 2.5 inch thick handmade Multani tiles made by professional craftsmen (Powell, [2002](#)).

4.2.1. Minarets of Bahria Town Grand Mosque. The minarets of the mosque are octagonal in shape. They stand 165 ft. tall and have a square base with 4 arch shaped wooden doors decorated with extensive mosaic art in animated colors. At the top, there are wooden balconies made from *sheesham* with canopies like cupolas.



i: View of the Blue Tile Work of Minaret



ii: View of the Blue Tile Work of Minaret

Figure 3. (i, ii) Views of the blue tile work of Minaret



i: View of the Blue Tile Work of Minaret



ii: View of the Blue Tile Work of Minaret

Figure 6. (i, ii) Views of the blue tile work of minaret



i: View of *Jharoka* and Wood Meshing of Minaret ii: View of *Jharoka* and Wood Meshing of Minaret

Figure 7. (i, ii) Views of *Jharoka* and wood meshing of minaret

4.3. Bahria Town Sector “F” Mosque – Lahore

Grand Jamia Mosque Sector “F” located in Bahria Town, Lahore and designed by Bahria Town Design Wing was inaugurated at the occasion of Eid-ul-Fitr in the year 2016. It can accommodate 1000 worshipers indoors, while the courtyard can also accommodate 300 worshipers. The mosque is four feet above the road, with the rooftop elevated to 65 ft. and the grand dome remains in the center like an impressive crown. The courtyard is designed with hydraulic umbrellas which act as a shading device against the sun and rain. The structure comprises a single 90 ft. tall minaret and a grand beautiful dome which covers the entire prayer hall. In the courtyard, there is very precious inlay work on China Verona marble which provides a gigantic look for the entrances.



i: View of Bahria Town Sector “F” Mosque ii: View of Bahria Town Sector “F” Mosque

Figure 8. (i, ii) Views of Bahria Town sector “F” Mosque

4.3.1. Minaret of Bahria Town sector F Mosque. The minaret of the grand mosque of sector F has a very powerful impact on the surroundings. It is standalone, square in shape, and has a height of 87 ft. from the ground. The minaret has three high ends at different levels with a singular shaft and within the shaft a monkey ladder is provided to reach the top. The inscription “Allah” is written on the minaret in Arabic letters.



i: View of Minaret



ii: View of Minaret

Figure 9. (i, ii) Views of the minaret of Bahria Town sector “F” Mosque

4.4. DHA Phase – V Mosque – Lahore

Jamia Mosque DHA located in DHA Phase - V, Lahore was designed by DHA Design Wing and can accommodate 1000 worshipers indoor and outdoor, collectively. The base of the entire structure is elevated 4 feet above the ground / road level, having 7 steps and ramp access. Its rooftop is elevated to 43 feet and the prayer hall has a grand dome placed in the center like a majestic crown having a pinnacle at the top. There is no use of calligraphy and the facade has a graffiti finish through the use of tiles. The mosque was designed in Turkish style with a large number of half minarets placed at the corners and the pointed minaret standing alone at the western side.



i: View of Mosque at Phase -V DHA ii: View of Mosque at Phase -V DHA

Figure 10. (i,ii) Views of Mosque at phase -V DHA

4.4.1. Minaret of DHA Phase – V Mosque. The grand mosque of DHA Phase - V has only one minaret which has a very powerful impact on the surroundings. It is a standalone structure with a square base followed by a circular plan leading to the conical top and it has a total height of 58 ft. from the ground. It has only one door and inside stairs to reach the upper storey. The minaret has beautiful pedestal like elements and some slit window like structures which enhance its beauty.



i: View of the Minaret

ii: View of the Minaret

Figure 11. (i, ii) Views of the minaret of grand Mosque in phase-V, DHA

4.5. Sukh Chen Mosque – Lahore

The mosque of Sukh Chen, that is, the central *jamia* mosque of the Sukh Chen society, was inspired by the famous Blue Mosque of Istanbul, Turkey. The mosque has a combination of grey and white facade and has two minarets with a conical top. The interior is richly decorated with painted floral patterns and calligraphy by

Turkish calligraphers. There is a beautiful arcade running outside in the open courtyard having small minarets. In other words, it is a replica of the Blue Mosque in Istanbul.



i: View of the Sukh Chen Mosque



ii: View of the Sukh Chen Mosque

Figure 12. (i, ii) Views of the Sukh Chen Mosque

4.5.1. Minarets of Sukh Chen Mosque. There are two minarets of Sukh Chen mosque standing separately as isolated structures. Both of them are 62 ft. in height. Both minarets have an octagonal base, with a circular middle having a pointed structure which represents a pencil like form with pinnacle at the top. Both minarets have one balcony only which is accessed by the spiral staircase within the minaret. They also have several windows (ten in number) with speakers placed on them.



i: View of Minaret



ii: View of Minaret

Figure 13. (i, ii) Views of the minarets of Sukh Chain Mosque



i: View of the Octagonal Base of the Minaret



ii: View of the Pencil Shape of Minaret

Figure 14. (i, ii) Views of the octagonal base and pencil shape of minaret

5. Assessment and Comparison of the Minarets of the Contemporary Mosques of Lahore - Pakistan

In order to assess the drastic changes in architectural features and styles of minarets in the contemporary mosques of Lahore, their comparative analysis with the minarets of historical Mughal era mosques of Lahore was conducted. The conclusion was derived that some elements were used continuously in the construction of minarets throughout the course of history; however, a significant change in trends was also observed.

Following considerations are appropriate for the purpose of comparison. Table 1.

1. Form
2. Materials
3. Construction Methodology
4. Positioning of Minarets

Table 1

Comparative Analysis of the Minarets of Mughal Era Historical Mosques with the Minarets of Contemporary Mosques

Parameters of Comparison	Mughal Era Historical Mosques	Contemporary Mosques
Form	<ul style="list-style-type: none"> • Perfect geometry, square or octagonal shape • Galleries at different levels • Stairs in the center • Pavilion at the top level • Cupola with pinnacle at the top • Outside decorated with detailed frescos and other inlay work • Terracotta grilling outside • Designed brackets 	<ul style="list-style-type: none"> • No particular or perfect form and geometry • No particular decorations and other inlay works • Some have no minarets
Materials	<ul style="list-style-type: none"> • Lime mortar • Small brick size 9.5” x 8” x 1.5” • Terracotta • Red stone • Marble • Lime plaster • Precious stones for inlay work 	<ul style="list-style-type: none"> • Reinforced cement and concrete • Brick size 9.5” x 3” x 4.5” • Plain cement plaster finish • Paint / distemper finish • Fiber glass for cupola or inscriptions
Construction Methodology	<ul style="list-style-type: none"> • Brick masonry with lime mortar • Galleries at transitional spaces • Broader at the base and thinner at the end • Square base, octagonal in middle and conical shaft at the end 	<ul style="list-style-type: none"> • Reinforced cement with concrete padding and plain cement with concrete footing • Form work installed and concrete poured forming R.C.C. structure • Brick cladding • Other tile work outside

	<ul style="list-style-type: none">• Stairs in the center to consolidate the whole structure	
Positioning of Minarets	<ul style="list-style-type: none">• All four corners	<ul style="list-style-type: none">• Mostly detached minarets
	<ul style="list-style-type: none">• Two corners at mihrab wall	<ul style="list-style-type: none">• Either one, two or four but at mihrab wall
	<ul style="list-style-type: none">• Turrets (on the wall of the mosque)	

6. Conclusions and Recommendations

The study of the contemporary trends in the construction of minarets in mosque architecture of Lahore revealed that the minarets of the contemporary mosques are quite different from the historic Mughal era mosques of Lahore. There is a huge change found in the architectural features and styles of the architectural vocabulary of mosque architecture. There are a lot of factors behind all these changes. Therefore, some conclusions were derived from the current research in order to analyze the direction of the contemporary trends in the construction of minarets and some recommendations, as described in the following section, are suggested for the future development of these contemporary construction trends.

6.1. Conclusions

Based on the comparative study of the minarets of contemporary mosques of Lahore with those of Mughal era historical mosques, following conclusions were derived.

- The study revealed that historical minarets have a grand form; indeed, every historical building reflected the wealth and power of the empire and attractive structures were erected with marble and inlay works. Thus, these buildings played a very important role in monumentality in terms of their size and visibility. The historic Mughal era mosques of Lahore were mostly built by the grand emperors of the time. They could manage a huge number of labor, ample time and a tremendous amount of money to build the magnificent mosques. However, in contemporary times small *mohallah* (neighborhood) mosques are built on a low budget often collected as *chanda* (fund collection) and take many years to complete. In case of housing societies which have great affordability, the developers finance the *jamia* and sector mosques and their aim is to construct aesthetically pleasing structures in less time to attract investors. Different influencing criteria such as political, economic, and time management criteria as well as issues of skilled labor are involved, which

create gap and confusion in the revival of features and styles of minarets in contemporary mosque architecture of Lahore.

- The historical mosques of Lahore used a very limited number of construction materials, such as lime mortar, stone, marble, cut dressed small brick, and clay etc. Now, after the industrial revolution a variety of construction materials are produced with reinforced cement concrete as the major material, from which the constructor can build high in less time. The production of fiber glass, different classification of wood, different classification of steel and other new materials play a very important role in changing trends. As the materials are changed, the product detail and finishing are also changed which results in changing styles and features. It is concluded here that the new materials used in construction have resulted in changing styles and features of minarets in contemporary mosque architecture of Lahore.
- As far as construction methodology is concerned, in older times it was very limited. So, a huge labor was employed for fabrication on site. Now, in the 21st century huge building machines are available and offsite construction can be done easily with the help of prefabrication. New methodologies with new materials can easily be utilized. Thus, new techniques in construction methodology have resulted in changing styles and features of contemporary minarets.

6.2. Recommendations

Following recommendations are made based on the comparative study of the minarets of historical and contemporary mosques of Lahore.

- Continuity through transformation: The contemporary architectural features and styles of mosques should not be alien; rather, they should show continuity with historic features. In other words, it must be ensured that the contemporary architectural features and styles of mosque architecture should be in continuation with traditional Mughal architectural features and styles through appropriate transformation.
- Availability of authentic literature: There must be authentic literature available in a well-developed archive about Mughal traditional features and styles as well as contemporary features and styles of the mosque architecture of Lahore. More such studies should be undertaken for strengthening the available literature.
- R.C.C. is the major building material these days and one can easily mold any form through its use. It must be, however, considered important that the form of contemporary minarets should be in line in proportion and scale with the

overall architectural scheme of the building and its surroundings. It would ensure the continuity of design with and the underlying geometry of the Mughal era historic structures.

- New materials should be used in continuation with traditional Mughal era materials, such as those of grand *jamia* mosque in which the architect used brick, sheesham wood, and khatatti in enameled tiles and gradually tried to transform a traditional style into a contemporary one without falsifying the monumentality of the mosque.
- Establishment of a statutory body: There must be a statutory body under the federal or provincial government and it should make sound legislation for the development of contemporary mosques. Such a body should be a centralized department at the provincial or federal level whose enactment must be formed and it should be able to work independently. This body should be made responsible for the contemporary mosques designed by architects, engineers and developers. Its responsibility should be to check and vet the drawings of the mosques by reviewing their form, architectural features and styles. It should also check the form of contemporary mosques which should have a strong concept of geometrical interpolation in their planning, similar to the traditional mosques of the Mughal era. There must be a geometrical analysis of the forms designed by the architects and it must be ensured that these forms are regularized and proportional. All the selections and rejections of the drawings should be made by this department. The hierarchy of this department can be developed by engaging senior architects of the country who have a deep insight into the traditional architectural styles of Pakistan including field practicing architects, structural engineers, material specialists, qualified contractors, professors, conservationists, archaeologists and art historians.
- Revival of skilled labor: There must be the revival of skilled labor. Famous families (*ustad gharanay*) expert in the construction of traditional stylistic features including khishti kunda kari, kashi kari, mina kari, binat kari, pucca qali, and khatati should be called upon by the centralized department and it should engage them for art work in the future. This will constitute an attempt to restore the skilled labor and their traditional professional techniques lost due to the practice of contemporary trends in mosque architecture. This attempt should be bi-fold, that is, it should not only intend to cause the revival of the stylistic features of traditional mosques in the contemporary era but it should also be aimed at the revival of traditional skilled labor and professional techniques. Once such type of skilled labor would be in the market, there

would be new job opportunities for the skilled labor that would not only serve at national level but also at international level, such as in the recent conservation and restoration work of Wazir Khan Hammam done by AKCSP in which fresco art techniques and all inlay works were done by Sri Lankan expert conservationists and historians.

- Centralization of *chanda* (fund) collection: The funding and *chanda* collection for the construction of the mosques must also be carried out under the centralized department. The collection boxes of *chanda* scheme must be installed and collected by the centralized department and must work under some act, such as the Auqaf department administers the fund in most of the mosques of Lahore including Wazir Khan, Sonehri Masjid, Data Darbar Masjid etc.

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