

Impact of Urbanization on Historical Buildings: Erosion of Identity of Kalan Masjid, Old Delhi

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Abstract

Due to rapid urbanization, many of the historical buildings are losing their identity and the cultural value associated with that. This paper investigates the effects of rapid urbanization on the Kalan Masjid which is a historical mosque in Old Delhi, India. The paper highlights the issue of encroachment nearby a historical mosque, which is located in the midst of a complex series of residential buildings. Unfortunately, some of these buildings have encroached on the mosque's land, resulting in its deterioration in various places. Therefore, the need for proper guidelines to regulate and rectify these encroachments is paramount to prevent the hidden destruction of the structure amidst the urban sprawl. The process of literature study is done through primary as well as secondary sources; such as books research papers publications, articles, journals Chapters thesis, dissertations, and review papers. For the primary study, site visits and analysis have been done to know the site-specific conditions. The context study was also important to know the whole urban morphology. After site study and analysis, the inference has been noted down.

The paper emphasizes the essential to prioritize the implementation of proper guidelines to manage rapid urbanization near historical buildings. The guidelines should be implemented based on a thorough understanding of the factors that influence the encroachment, as well as the challenges faced by historical structures in complex urban settings. By taking a proactive approach to protecting cultural heritage, one can ensure that historical buildings continue to serve as valuable cultural assets for generations to come. This will prevent the encroachment and deterioration of such structures and maintain their historical significance, which serves as a cultural heritage and a source of national pride. The paper is finally concluded by providing the guidelines to be followed and an implementation plan is proposed for the site.

Keywords: Rapid Urbanization, Unregulated Expansionism, Deterioration of Structure, Sanctity, Sense of Enclosure, Encroachment.

Introduction

Prior to the 1950s, the area surrounding the Kalan Masjid and the Dargah was relatively sparsely populated. Today, it is surrounded by high-rise buildings, and as evidenced by the first photograph taken in 1858 by Major Christopher Tytler and his wife Harriet, the area has also decreased in size. The area surrounding the mosque which is attributed to the Sense of Enclosure phenomenon (Unified Building Bye-Laws for Delhi-2016). To maintain the historical significance of the mosque, it is crucial to consider various factors that contribute to the sense of enclosure in its surroundings. These factors include the urban layout, street width, presence of parked vehicles, perceived value, floor area ratio (FAR), and the architectural style of surrounding buildings. Proper regulation of the surrounding environment based on the guidelines provided by the Heritage Conservation Committee, Government of Delhi, becomes essential in preserving the monument's historical importance. Khan Jehan, an influential figure, was responsible for the construction of seven mosques in Delhi. These mosques include:

- Khidki ki Masjid
- Begumpur Masjid
- Kalu Sarai Masjid
- A mosque situated near Hazrat Nizamuddin Aulia Dargah
- A mosque located at Feroze Shah Kotla
- A mosque positioned between Lahori and Ajmeri Gates
- Kali Masjid or Kalan Masjid

Khan Jehan's architectural contributions encompass a diverse range of mosques across Delhi, each bearing its own unique significance.

The primary objective is to conduct a comprehensive analysis of the monument and its surrounding environment, with a focus on identifying the effects of encroachment. This analysis aims to develop strategies that ensure the longevity of the monument for future generations. Establishing a connection between the impact of encroachment and the surroundings of a 14th-century monument is crucial. Therefore, a thorough study of the monument's architecture, materials used, and the immediate environment is necessary before establishing this connection. The analysis will specifically assess the impact of encroachment on the monument itself.

The study should assess the effects of human activity, construction, and development in the immediate vicinity of the monument. To establish a correlation between encroachment and monument degradation: Based on the analysis, researchers can identify any patterns or correlations between encroachment and the degradation of the monument. For example, if there is a high level of construction in the immediate vicinity of the monument, it may lead to soil erosion or increased pollution, which can cause degradation of the monument over time. To develop strategies to mitigate encroachment: Based on the findings, researchers can develop strategies to mitigate encroachment and prevent further degradation of the monument. This could include implementing zoning laws, limiting construction activity in the immediate vicinity, or improving the surrounding infrastructure to maintain its setbacks.

Literature Review

According to Nath (1933) the metropolitan areas in India are currently experiencing significant changes, and this research paper categorically talks about the case of Old Delhi. Old Delhi is categorized by high-density, low-to-medium rise, mixed-use development in areas that lie within the original walls of the old city of Shahjahanabad. Kalan Mosque, also known as Jama Masjid Kalan, is an ancient mosque situated in Turkman Gate, Old Delhi. It was built in the 14th century during the Tughlaq dynasty and is considered one of the oldest surviving mosques in Delhi. Mohalla Kabristan, in contrast, there is a locality in Old Delhi that is known for its historic graveyard, which contains the tombs of several prominent personalities, including Raziya Sultan who, was the first woman to rule the Delhi Sultanate in India. She ruled from 1236 to 1240 AD, and her tomb is located in Mohalla Bulbuli Khana in the Walled City area of Delhi.

Sayed (2017) described in his report for Chiragh Dilli that the significance of the Kalan Mosque's faded appearance lies in its role as a tangible connection to the rich history and cultural heritage of the city. Preserving the mosque in its optimal condition is essential for maintaining this connection and enabling future generations to appreciate and comprehend the city's past. Various factors have contributed to the mosque's diminished luster, including neglect, insufficient expert maintenance, and environmental elements such as pollution and weathering. The decline of the Kalan Mosque's radiance raises concerns since it is a vital historical monument that embodies the architectural and cultural heritage of Delhi. Believed to have been constructed in the 14th century, the mosque has borne witness to the rise and fall of numerous dynasties and has played a significant role in shaping the city's history. Apart from its historical significance, the conservation of Kalan Mosque could also have economic benefits for the local community, as it could attract tourists and generate revenue for the area.

Overall, the lost shine of Kalan Mosque is an important issue that should be addressed in order to preserve the city's cultural heritage and ensure that it remains a symbol of Delhi's rich history and heritage for generations to come.

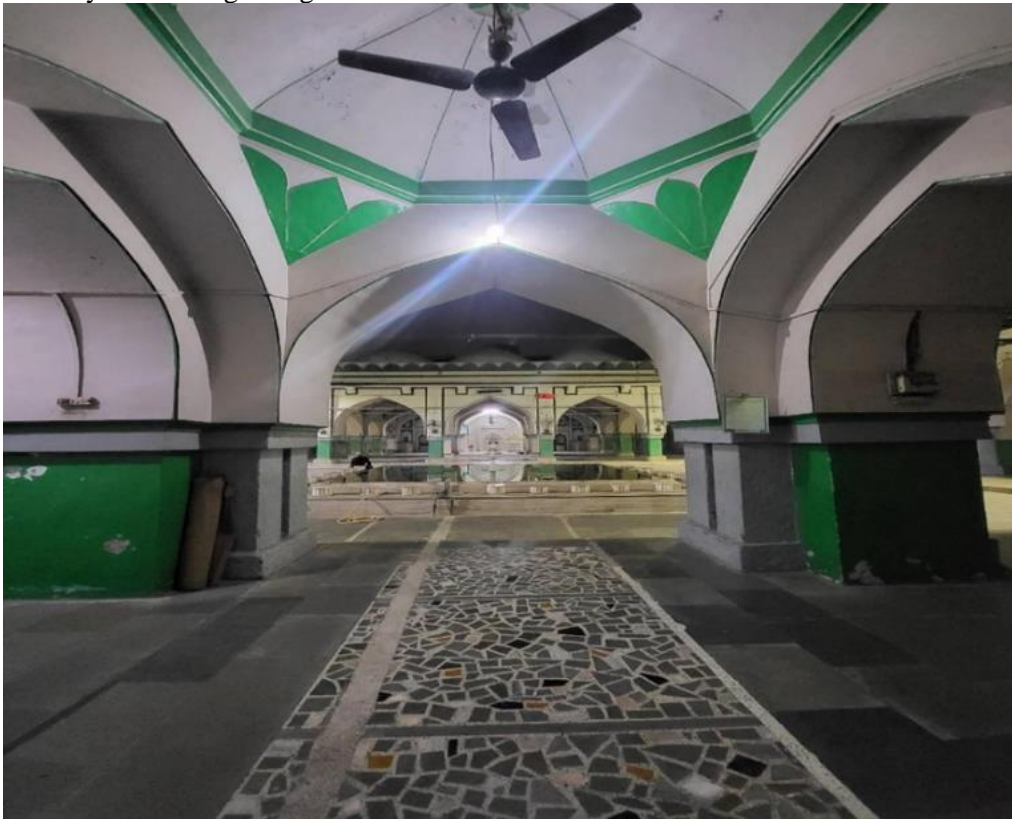
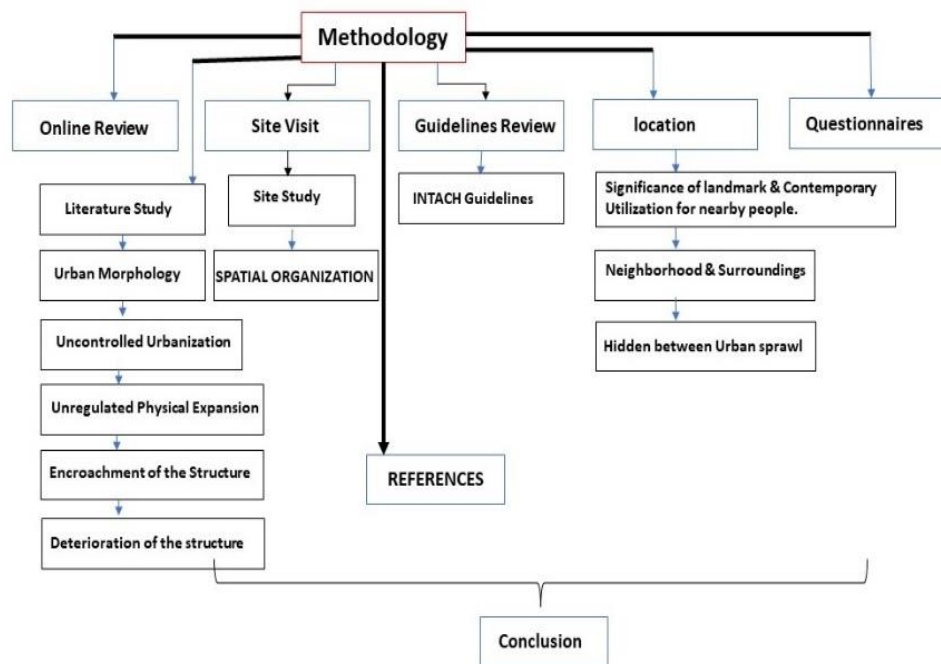


Fig. 1: Mosque Interior View
Source: Author

Research Methodology

The methodology for writings this paper is to first find out the what the issue is, and how this issue has arisen; and build a hypothesis. The aim of the research has been defined and the objectives were framed to achieve that aim. After that go through the literature study of the relevant topics to give out the research gap. The process of literature study is done through primary as well as secondary sources; such as books research papers publications, articles, journals Chapters thesis, dissertations, and review papers. For the primary study, site study has been done. Multiple site visits have been done to know the site-specific conditions. The context study was also important to know the whole urban morphology. As part of the research process, authors conducted a comprehensive survey using Google Forms to gather insights on how

individuals perceive the site and its context. The survey consisted of a carefully crafted set of questions, designed to explore various aspects related to mosque, its historical context and its socio-cultural impact on the neighborhood by participants. The questions aimed to elicit responses that would provide a diverse range of perspectives and shed light on the different viewpoints held by individuals from various backgrounds and fields of expertise. The survey has been done both online and offline on the site so that it can give an inclusive response. It can include the persons who are very well versed with the digital modes or online surveys. By utilizing this survey approach, the authors sought to incorporate the perspectives and insights of a broader audience, enriching the research findings with a comprehensive understanding of how others perceive and engage with the mosque on a daily basis in their life. If they are aware of the historical importance of the mosque or not. Physical and social infrastructure and the services which are prevalent in the context of the site and how the whole network is working. After site study and analysis, the inference has been noted down. The hypothesis has been cross-checked that if it is correct or not. After that, the proceed framework is provided and the limitations of it is do discussed.



Flow Chart 1: Step-by-Step approach to solving a task through a Flow chart

Source: Author

Site Study

Location

As per Google maps, coordinates of this place are 28.645055 latitude and 77.2307879 longitude. The place located at Muhammad Deen Ilachi Marg, Phatak Teliyan, Ahata Mir Bukhari, Old Delhi, Kalyanpura, Delhi having pincode-110006, India. It is a prominent religious establishment. This sacred site serves as a Mosque and a Place of Worship, providing a space for people to practice their faith. Kalan Mosque, also known as Jama Masjid Kalan, is an ancient mosque situated in Turkman Gate, Old Delhi. It was built in the 14th century during the Tughlaq dynasty and is considered one of the oldest surviving mosques in Delhi. Mohalla Kabristan, in contrast, there is a locality in Old Delhi that is known for its historic graveyard, which contains the tombs of several prominent personalities, including Raziya Sultan who, was the first woman to rule the Delhi Sultanate in India. She ruled from 1236 to 1240 AD, and her tomb is located in Mohalla Bulbuli Khana in the Walled City area of Delhi. (Habitat Library & Resource Centre

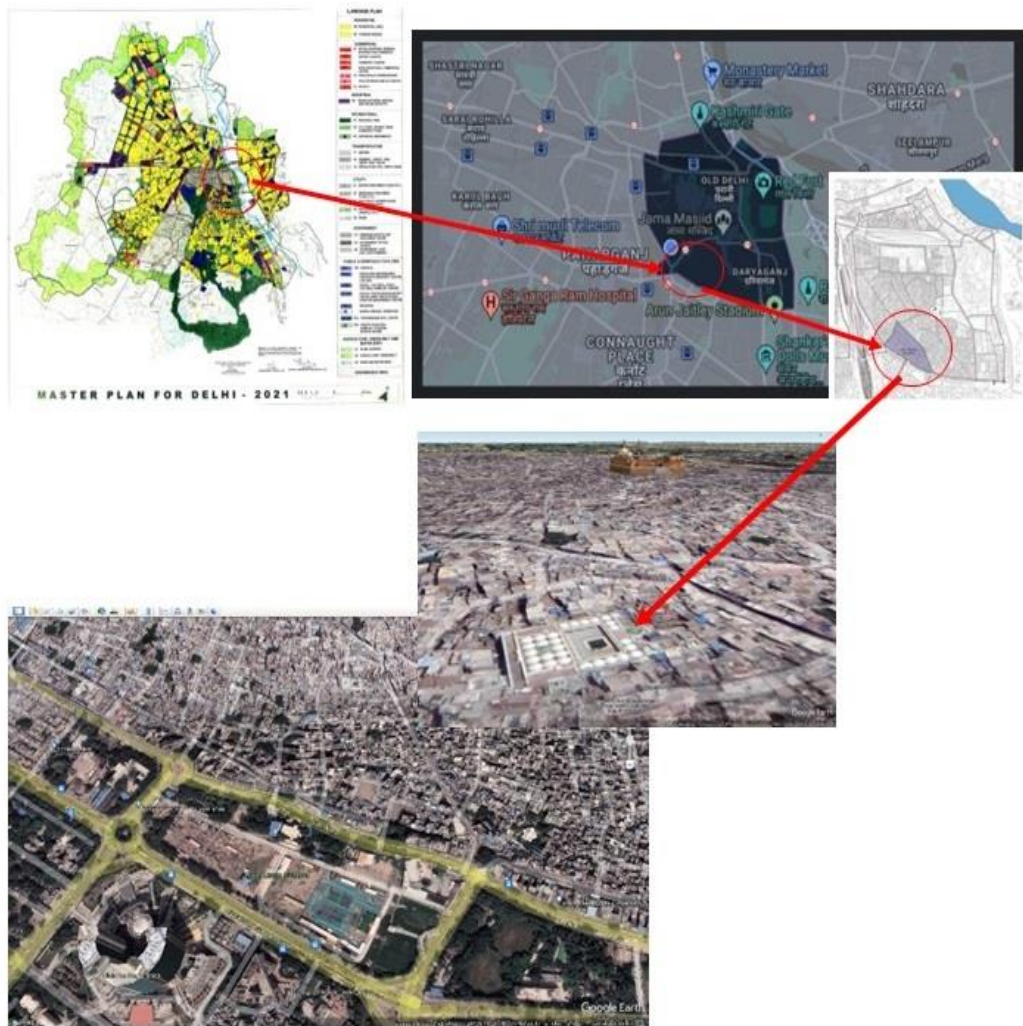


Fig. 2: Site Location

Source: Google Earth & Master Plan Delhi

Site surroundings

Until 1814, the Kalan Masjid in Firuzabad was encompassed by low masonry structures, and by 1840, a thriving village had emerged in its proximity. Presently, the Kalan Masjid is situated within the economically disadvantaged quarter of the walled city of Shahjahanabad, with multi-story houses closely adjoining its outer boundaries. Access to the mosque is available through a narrow street branching off from Sita Ram Bazar Road. Currently, the mosque remains active, serving the local community, and is directly administered by the Delhi Waqf board. This area of Kucha Patti Ram and Sita Ram Bazar in Delhi is a historically rich location, known for its cultural and architectural significance. It is home to several havelis that were built by Kashmiri migrants between the 1800s and the mid-1900s (D.U.A.C., 2017). In addition, two of the main gates of Shahjahanabad, Ajmeri Gate and Turkmani Gate, are also located in this area. Kalan Masjid, which is the oldest mosque within the Walled City of Delhi, is situated in this zone. It was built in 1378 and serves as a significant religious landmark.

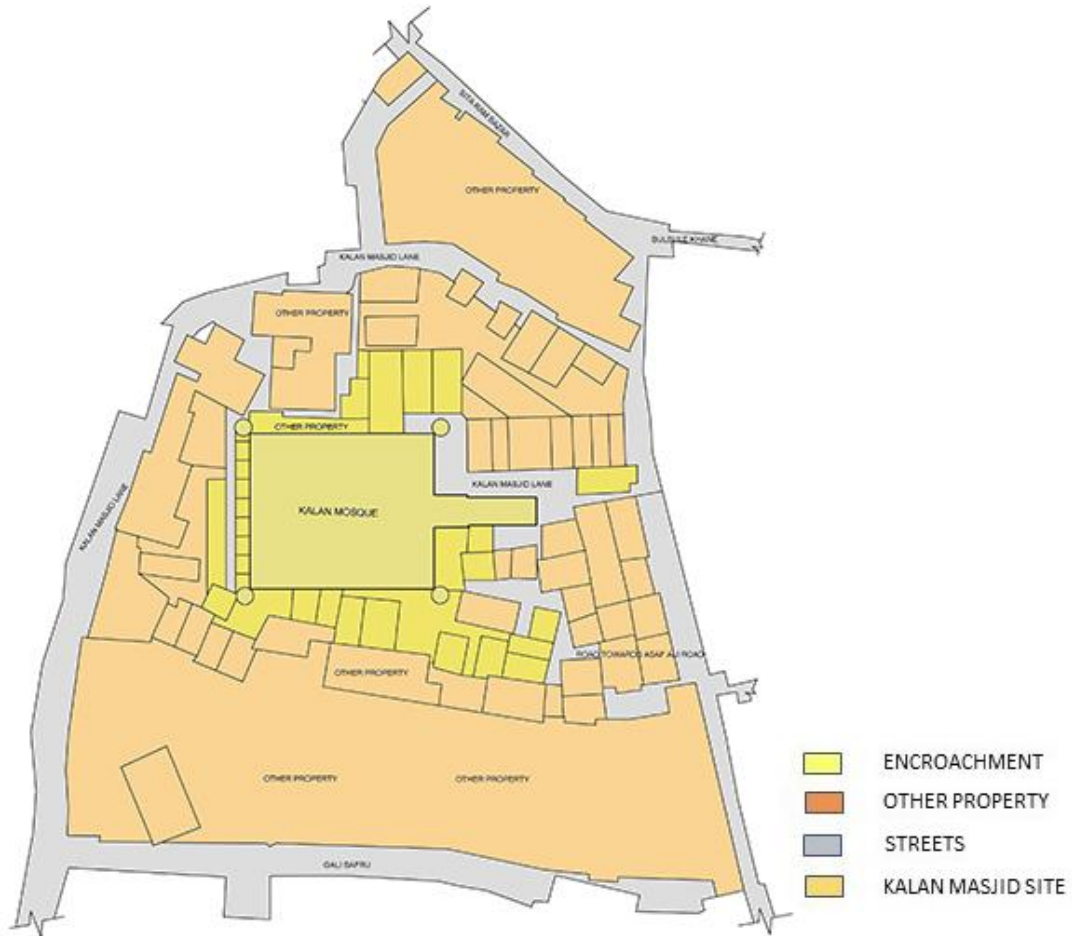


Fig:3 Site Surroundings
Source: Plan by Author

Site context

The area represents the earliest phase of the Walled City's development, dating back to the Tughlaq Era. As a result, it is also the most densely populated area in the city. The market in this area is renowned for its accessories and sequins. It is one of the largest markets for handicraft materials in North India. The streets within the area vary in width, with roads ranging from 3 to 6 meters wide. Interior streets can be as narrow as 1 meter or less. The architecture of this area is characterized by katra and kuncha-type mixed-use developments. These buildings combine residential and commercial spaces, and many have vegetable markets on their ground floors. The area is an excellent example of traditional Indian urban design and reflects the vibrant cultural heritage of Delhi. (D.U.A.C., 2017).



Fig. 4: Site Context

Source: Author

D.U.A.C. Guidelines for KALAN MASJID

According to the Delhi Urban Art Commission, there is a historical monument located in Sub-zone A-13, specifically in the area of Kucha Patti Ram and Sita Ram Bazar. This monument falls under the categories of INTACH - Grade A and Grade II HCC Heritage Buildings. HCC Grade II refers to buildings and areas that hold regional or local significance due to their special architectural, aesthetic, cultural, or historical value. While they may be of a lower scale compared to Grade I Heritage buildings, they are important local landmarks that contribute to the region's image and identity. These buildings may showcase skilled craftsmanship, exhibit well-proportioned designs or decorative elements, or be tailored to suit specific climates. It is essential to conserve and protect Heritage Grade II buildings intelligently. Grade II (A) allows for internal changes and adaptive reuse with careful scrutiny. However, Grade II (B) ensures the conservation of all special aspects that led to its inclusion in Heritage Grade II. In certain circumstances, the construction of extensions or additional buildings on the same plot or compound may be permitted as long as they are in harmony with and do not detract from the existing heritage buildings or areas, especially in terms of height and facade. The Heritage Conservation Committee provides guidance and advice on development permissions for such changes. Furthermore, any development in the surrounding areas of Heritage Grade II must be regulated and controlled to ensure it does not diminish the grandeur or views associated with the heritage site. (<https://hccdelhi.in>)

Spatial organization

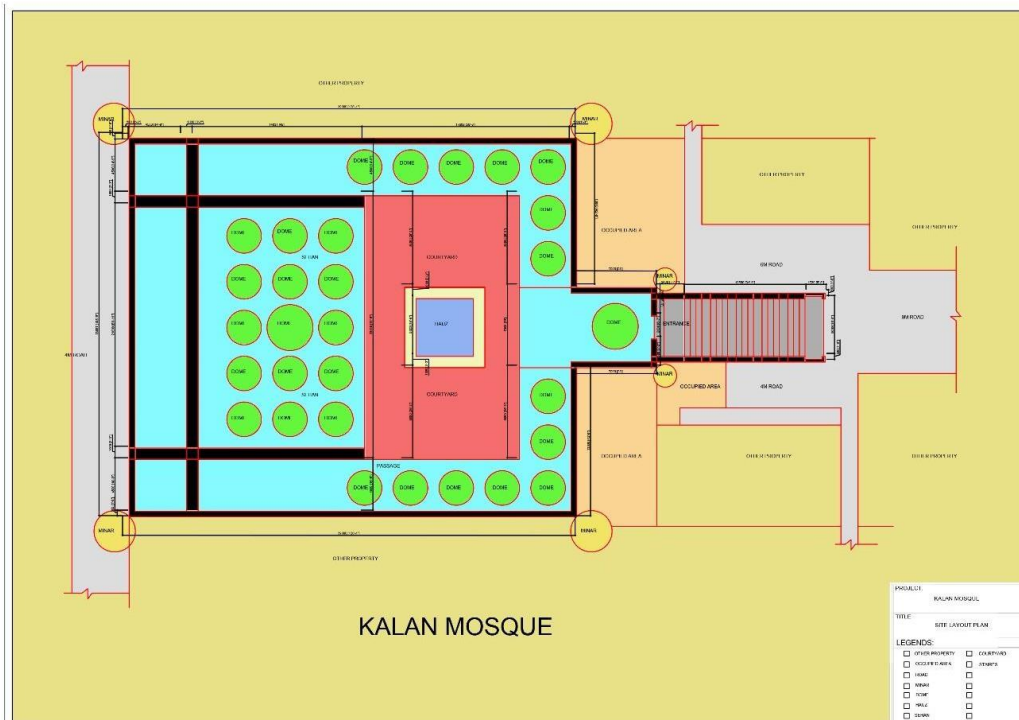


Fig. 5: Spatial Organization
Source: Plan by Author

Kalan Mosque was constructed by Khan-i Jahan Junan Shah, who served as the Prime Minister (Wazir) at the law court of FiruzShah III (Tughluq) from 1368-1387. FiruzShah was the last powerful sultan of Tughluqs of Delhi and is famous for his passion for making buildings that spanned across the empire. He was the man behind the construction of numerous public buildings, religious structures, and buildings for civic use, pleasure retreats, monuments & palaces. (<https://www.archnet.org/sites/6344>.)

The mosque measures approximately 1400 Sq. meters (41 meters X 34 meters) excluding the area of the outer wall. It is mostly a building of rectangular shape and the longitudinal axis of the mosque is oriented in the east-west direction. The height of the mosque is 21 meters and (8.5 M or 28 feet) approximately. This also contains many vaulted cells in a series that is accessible with its periphery side and the masjid is situated in the above level. The walls on the outer periphery of the mosque are of stone rubble masonry of 1.65 meters thick. They are battered in the 1950's to the very top where they are joined by a line by merlon form in plaster relief painted white and emerald green. As per observation, the mosque has towers that are conical in shape at its all four corners and a complete square with the dome. An entrance gateway is coming out from its eastern side. This entrance can be accessed along a flight consisting of 32 steps which is mounted at a sharp edge from the east. The mosque consists of structural bays of different sizes which are 9 by 7. The plan of the mosque is divided into two equal halves along a central north-south axis. The eastern side has 5 bays by 7 bays, while the western side has 4 bays by 7 bays, western bays are larger than the eastern bays in size. The courtyard has a square Hauz pool of approximately 25 Sq. Meter (5 meters X 5 meters) with a 1-meter setback from every side for seating for wazu and old Fountain is at center of this hauz. Surrounding the courtyard, within the walls on the outer side, on the northern direction, south, and east sides. There is a single row consisting of arcades with fifteen domed bays of square shape. The north side of the mosque has four bays. The same case is with the south side, while the east side has five bays. The central entrance bay is dominating from those on both sides.¹

The half portion of western side of the plan is occupied by hall used for prayer, which is nearly as big as the courtyard. The hall is a vaulted part supported on enormous piers of stones divided into 5 rows and 3 aisles. 2 The western (qibla) wall has five mihrabs that are corresponding to the centers of these rows. The hall is surrounded by seven vaulted rooms which are square and rectangular. The bay thickness of all these rooms are same which is contained within the walls on western, southern, and northern directions. Three rooms are of square shape out of these seven rooms and lead the way to the corner tower, measuring approximately 9 Sq. Meters (3x3). The spaces adjacent to the hall has the rest of the rectangular rooms, adding additional space. In the north and south side of the hall, there are two rooms which are rectangular measuring 36 Sq. Meters (11.8 meters X 3 meters) approximately, while two rectangular rooms are of size 21 Sq. Meters (7.1 meters X 3 meters) approximately are located in between those three rectangular rooms on the west side. However, two sections of wall which are in between the hall and the rectangular rooms contain a staircase that leads up to the roof of the hall. (Bakshi, Shri Ram and Sharma Suresh, eds. Delhi Through Ages Vol. 1, Ancient and Medieval Delhi. New Delhi: Anmol Publications Pvt. Ltd., 1995. 28-31)

Walking in the lane from Bulbule Khane to Turkman Gate, one will probably miss what is perhaps the oldest pre-Mughal surviving structure in Shahjahanabad. Now hidden in narrow back lanes and surrounded by tall buildings, Kalan Masjid used to be known as one of the tallest mosques in the city before Jama Masjid. Unlike other royal mosques, we can't see its minarets from a distance subsequently it has not got any. Two noteworthy topographies of mosques of the Tughlaq dynasty are the absence of huge minarets and the use of shallow domes not large as in Mughal-era mosques. Other noticeable mosques without minarets are Khirki Masjid and Begumpuri Masjid 1. ² <https://www.archnet.org/sites/6444>.



Fig. 6: Board showing establishment of Kalan Mosque

Source: Author

Urban Morphology

The bustling streets, vibrant old city life, and strong sense of community make up the heart of Delhi. However, the rapid urbanization that has occurred in recent decades as part of the city's development has caused significant changes. The historic center of Shahjahanabad

has been particularly affected by this population explosion, as thousands of people from both rural and urban places have migrated to the city, putting a strain on its civic infrastructure and challenging its resilience (K. Kiruthigan , K. Thirumaran). Preserving the history of the city while accommodating increased density has become a critical issue, as the existing high-density urban form of Old Delhi is permanent and the shortage of living space continues to worsen. The conflict between the crucial need to preserve the city's history and the need to accommodate rapid growth and continuous development has intensified, posing a significant challenge for the city's future.

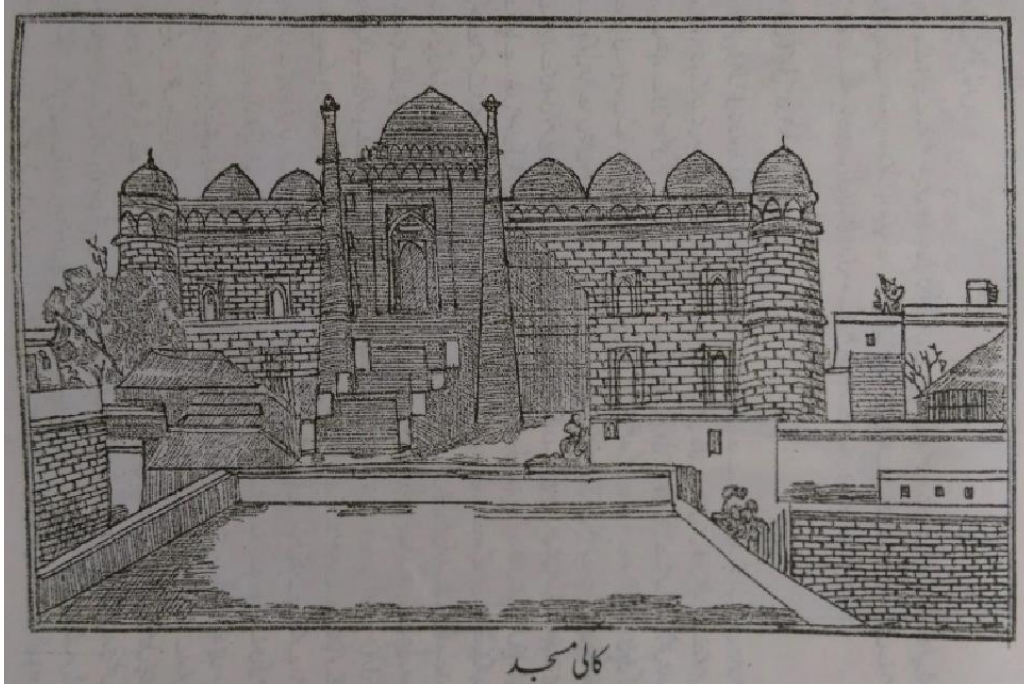


Fig. 7: A sketch of Kalan Mosque

Source: A sketch of Kalan Masjid from Bashiruddin Ahmed's *Waqiyat-e-Daar-ul-Hukumat*

Rapid Urbanization

Rapid and haphazard growth of urban areas without urban planning and management in a proper manner. It often results in the growth of slums and informal settlements, inadequate infrastructure, and increased social and environmental problems (El Menchawy, S. S. Aly & M. A. Haki). Uncontrolled urbanization has always been a significant issue in Old Delhi, which is one of the oldest and most densely populated areas of the city has faced significant issues. The area is characterized by narrow streets, old buildings, and a lack of adequate infrastructure, leading to various social and environmental problems (Muqarnas vol. 1 (1983): 123 ---166.). One of the major results of uncontrolled urbanization in Old Delhi has been the development of slums and informal settlements. Many people who migrate to Delhi for better economic opportunities end up living in these settlements, which lack basic services like potable water, sanitation, and electricity.

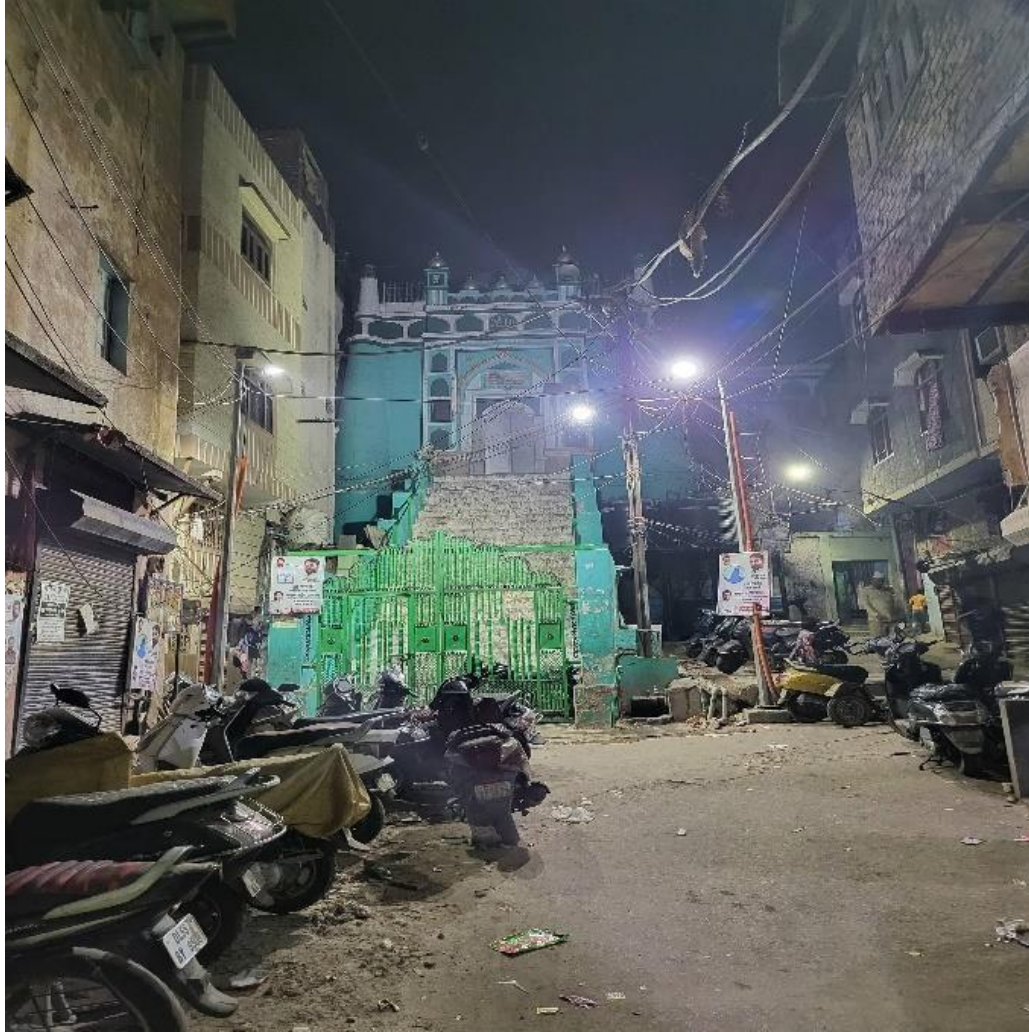


Fig. 8: Uncontrolled Urbanization
Source: Photograph by Author

Unregulated Physical Expansionism

The rapid growth of these ghettos or informal settlements has mostly resulted in the destruction of green spaces and natural habitats, which can lead to environmental degradation and increased pollution levels. Additionally, the lack of proper waste management systems in these settlements contributes to the problem of garbage accumulation and disposal. Another significant consequence of uncontrolled urbanization in Old Delhi is traffic congestion. The narrow streets and alleys of the area were not designed to accommodate modern traffic volumes, leading to frequent traffic jams and increased air pollution.



Fig. 9: Uncontrolled Urbanization in the vicinity of history monument.
Source: Photograph by Author

Encroachment of the Structure

Over the past few decades, the landscape of this area has undergone a significant transformation. Back in the 1950s, this area was relatively sparsely populated, and there were not many tall buildings in the vicinity. However, if you look at the area today, you will notice that it is surrounded by high-rise structures on all sides. This urbanization has had a significant impact on the landscape of the area, including its size.



Fig. 10: Occasion of Bakr Eid.
Source: Chiragh Dilli



Fig. 11: The first Photograph taken of this area back in 1858 by Major Christopher Tyler and his wife Harriet.

Source: Image from British Library (Robert & Harriet Tytler: Photo 53/(26) no. 5326
<http://t.co/bHT1WOjczX>.)

If you take a look at the first photograph taken of this area back in 1858 by Major Christopher Tytler and his wife Harriet, you can see that the area was much larger than it is today. Over the years, due to the construction of new buildings and the expansion of existing ones, the area has shrunk significantly. This has had a profound impact on the people, including its cultural and historical significance. The transformation of this area is not unique, and it is a trend that can be seen in urban centers around the world. As cities continue to grow and expand, areas that were once sparsely populated or relatively untouched become prime real estate for development. This can lead to rapid urbanization, which in turn can have both positive and negative impacts on the community. (The Lotus Collection, Roli Books Pvt. Ltd., 2005. 80-83, 209-211.)

Therefore, it is essential for policymakers and urban planners to maintain a balance between development and preserving the natural and cultural heritage of this place. In conclusion, the landscape of this area has undergone significant changes over the years, and it is now surrounded by high-rise buildings. However, it is essential to ensure that these developments do not come at the cost of the area's natural and cultural heritage.

Deterioration of the Structure

During a conversation with a local resident who wished to remain anonymous, it was revealed that the ground floor has been occupied for centuries and used as a residential area for nearby people who have lived there for generations. However, this has resulted in significant encroachment, with the compound being used for multiple purposes by the people who live nearby. As a result, many of the structures within the compound have deteriorated over time.



Fig. 12: Deterioration of the structure.

Source: Photograph by Author

One example of this deterioration is the constant moisture within the compound, which has resulted in the deterioration of its plaster and loss of bricks. The moisture is likely due to the location of the compound and its proximity to bodies of water or heavy rainfall. Over time, this moisture has seeped into the structures within the compound, causing damage to the plaster and weakening the bricks. Another example of the deterioration is the falling of sand and bricks. The constant use of the compound and the heavy foot traffic it experiences have caused wear and tear on the structures, resulting in the falling of sand and bricks. This poses a safety hazard for those who frequent the compound and could potentially cause injury.

It is clear that the compound has suffered from a lack of maintenance and upkeep over the years, which has resulted in the deterioration of its many structural elements. It is important for the local community and government to take action to address these issues and preserve the historical and cultural significance of the compound for future generations to enjoy (ISVS e-journal, Vol. 10, Issue. 1 January, 2023). This could include regular maintenance and restoration efforts, as well as limiting the use of the compound to prevent further encroachment and damage to its structures.

Significance of Landmark & Contemporary Utilization for Nearby People.

For centuries, the Kalan Masjid has been a significant religious and cultural center, playing a vital role in the lives of the people who live nearby. It is a prestigious place of worship that has brought together the local community for generations, serving not only as a mosque, but also as a hub for social gatherings and education. As a mosque, the Kalan Masjid has provided a spiritual home for countless Muslims over the centuries, offering a place for prayer, reflection, and community. Its grand architecture and intricate design reflect the importance of the space as a center of religious devotion and spiritual connection. Beyond its role as a place of worship, the Kalan Masjid has also served as main social gathering space, bringing together people from all walks of life to connect and share in community. The mosque has been a hub for cultural events, celebrations, and festivals, fostering a sense of belonging and unity among the local population.

The Kalan Masjid has also played a vital role in education, serving as an Islamic school where students can learn about their faith, study Arabic, and deepen their knowledge of the Quran. This has allowed generations of young people to develop a deeper connection to their faith and their community. Finally, the Kalan Masjid has been a special place during the month of Ramadan, with people gathering to watch the moon and breaking their fasts together during

iftar. On the occasion of Eid, the mosque comes alive with festivities, including feasts, prayer, and celebration (Anmol Publications Pvt. Ltd., 1995. 28-31). Overall, the Kalan Masjid has been a central part of the local community for centuries, serving as a place of worship, community, education, and celebration. It has touched the lives of countless people, and will continue to do so for generations to come.

Hidden Between Urban Sprawl.



Fig. 13: Hidden between Urban sprawl.
Source: Photograph by Author

Mosque Site is between the towering 6-floor unrestricted height of neighboring residential buildings and bustling streets lies a building hidden among the concrete jungles of the old city (ISVS e-journal, Vol. 10. No.2, February, 2023). Despite being overshadowed by the surrounding tall plastered building, this hidden gem holds its own unique charm and allure. As one approaches the building, one may notice the intricate details etched into the walls and the ornate carvings adorning the doorways. Perhaps they catch a glimpse of a green-painted building or a hidden courtyard, offering a moment of respite from the busy narrow lanes outside. Inside, the building reveals even more surprises, with winding staircases, domes, vaults and arches. Despite its hidden location, this building is a testament to the enduring beauty and character of the past. It stands as a reminder of a time when buildings were crafted with care and attention to detail on rock, and when architecture was seen as a form of art. While it may be overlooked by many in the rush of modern life, this building remains a hidden treasure, waiting to be discovered and appreciated by those who take the time to seek it out.

The Tughlaqs were known for their innovative architectural style, which combined elements of Islamic, Hindu, and Persian architecture. Their structures were notable for their strong, bold lines and impressive scale. In conclusion, the hauz and the entrance of the mosque are excellent examples of the Tughlaq style's distinct features. The simplicity of the mosque's exterior design reflects the Tughlaq dynasty's practical approach to governance and the utilitarian nature of their architecture. The word "Kalan" originally meant "big," although some have since misinterpreted it to mean "Kali" or "black." The Kalan Masjid is one of the few functional medieval mosques in Delhi, with the mosque in Firoz Shah Kotla also being functional, despite being in ruins. An idealized view of the entrance courtyard and east facade of the Kalan Masjid is depicted in the drawing, with a group of elephants, soldiers, and attendants in the foreground. The vertiginous flight of steps leading to the entrance gateway is a notable feature of the mosque's architecture built in 1387, the Kalan Masjid is located in Ferozabad, a section of Delhi that was built by Feroz Shah Tughlaq, who ruled from 1351-88. The mosque was constructed by the son of Khan-i-Jahan Junan Shah, who was the Prime

Minister of Feroz Shah Tughlaq. While the mosque was originally built in Ferozabad, it was later included in Shahjahan's new city, Shahjahanabad. The Kalan Masjid's architecture is an excellent example of the Tughlaq style, which was prevalent in the 14th century during the Tughlaq dynasty's reign. The dynasty was known for its innovative architectural style, which blended elements of Islamic, Hindu, and Persian architecture, resulting in structures with strong, bold lines and an impressive scale. (2018, Rana Safvi).

Remodeling of its Elements

During my recent site visit to the Kalan Mosque, I observed that some significant changes have been made to the structure. The most notable change is in the mimber of the mosque, which has been replaced with a new white marble structure that features flower engravings in the typical Mughal style.



Fig. 14: Old mimber.

Source: Photograph by on grid in 2015.

The old mimber, which had six steps, has been replaced with this new. The intricate floral engravings on the white marble add an ornamental touch to the mosque and showcase the exquisite Mughal style of architecture. The replacement of the old mimber with this new structure not only enhances the aesthetics of the mosque but also reflects the cultural significance of the Mughal era.



Fig. 15: New Member.

Source: Photograph by Author

Overall, the replacement of the old member with the new white marble structure is a transition of Delhi Sultanate Tughlaq style into Mughal Era. It adds to the beauty and cultural significance of the mosque, and demonstrates a dedication to preserving the mosque's heritage while also adapting to changing times. Secondly, the Hauz water drainage system is facing a secondary issue of being choked due to which seepage and continuous leakage of water from the drainage system of hauz into ground floor. As a consequence, the drainage has turned into a cesspool, further exacerbating the problem. The clogged drainage has also resulted in the formation of moss and the water has turned green in color. It is imperative to restore the drainage system with the help of archaeological experts to prevent the coagulation of water and the cesspool from forming over time. To address this issue, proper drainage restoration is essential, and expert archaeological teams should be engaged to carry out the necessary work.

Surveys & Interviews

A survey has been conducted during the site visit by the person who was available on the site and the nearby surrounding to know if the native persons had enough information about the mosque or not. If they are aware of the significance of the mosque. The history of the mosque is known to people or not. What is their perspective on the development of the area? Their view about the conservation of cultural heritage and what role the local area committee has in the decision-making. The interaction has been done both online and offline with the residents. The responses were as follows:

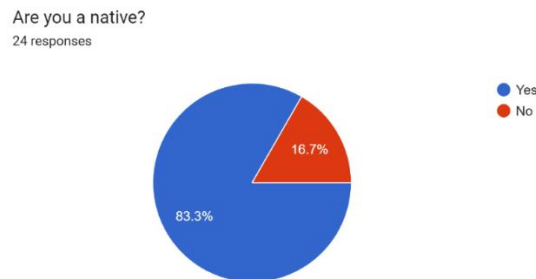


Fig. 16: Responses for Native Status
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons are native of the area or not. The findings reveal that a significant majority, 83.3% of participants are native to the area. On the other hand, a smaller percentage, 16.7%, persons are not native to the area.

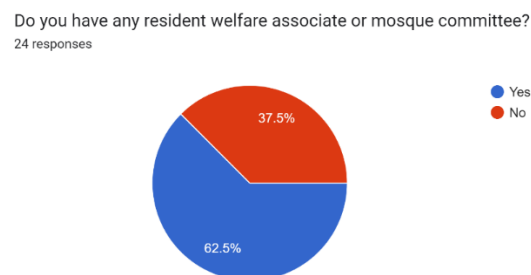


Fig. 17: Responses for Association with local committees
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons are part of the local committee of the area or not. The findings reveal that a significant majority, 62.5% of

participants are involved in the decision-making process, On the other hand, a relatively smaller percentage, 37.5%, persons are not a part of local committees.

Are you a part of meeting which are held for any changes in the area?
24 responses

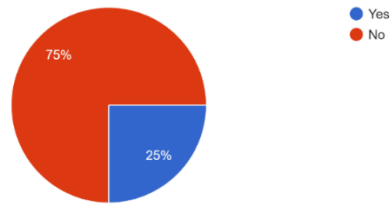


Fig. 18: Responses for participation in decision making
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons are part of the decision-making for the development of the area or not. The findings reveal that a significant majority, 75% of participants are involved in the decision-making process, On the other hand, a relatively smaller percentage, 25%, persons are not a part of such meetings.

Do you know the history of this Mosque?
24 responses

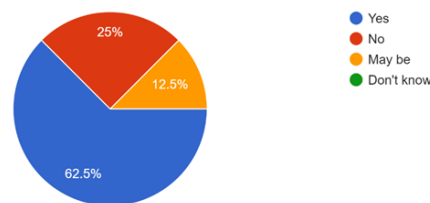


Fig. 19: Responses for Awareness about the history of the mosque
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons are aware of the history of the Kalam Mosque or not. The findings reveal that a significant majority, 62.5% of participants are aware of the history, On the other hand, a relatively smaller percentage, 25%, of participants are not aware of the history and 12.5% of the participants are confused about the details of the history.

Which organization or individual is responsible for the development works
24 responses

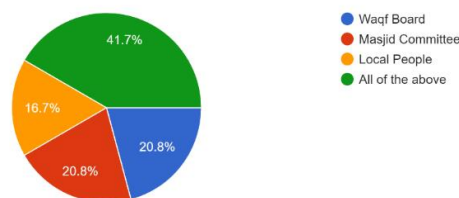


Fig. 20: Responses for organizations roles in development works
Source: Google Form questionnaire by Author

Through this question, the authors investigate which organizations are responsible for the development works in the neighborhood. The findings reveal that the Waqf board, local masjid committee, local people are involved in the development works in the area.

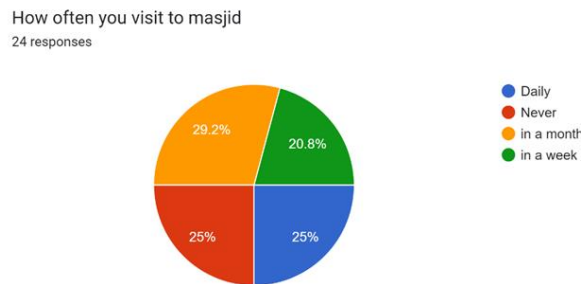


Fig. 21: Responses for use of the mosque
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons regularly visit Kalan Mosque or not. The findings reveal that 25% of participants are going to the mosque daily to offer namaz. 20.8% visit it in a week and 29.2% visit it once a month. This reveals that Kalan Mosque is in frequent use by the local people.

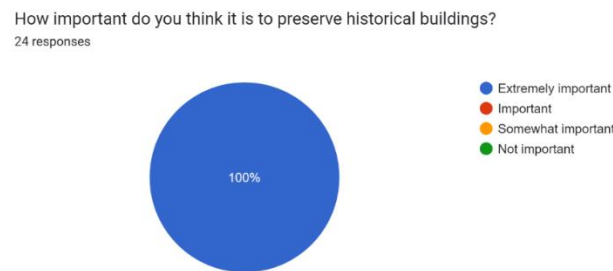


Fig. 22: Responses for importance of preserving historical buildings
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons think that the preservation of historical buildings is important or not. The findings reveal that the significance and importance of historical buildings are known to all the participants. They have the opinion that historical buildings should be preserved.

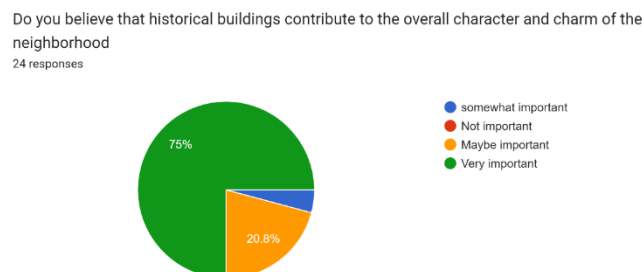


Fig. 23: Responses for role of historical buildings in neighborhood
Source: Google Form questionnaire by Author

Through this question, the authors investigate if the persons are aware of the roles of historical buildings in the overall character and imageability of the neighborhood or not. The findings reveal that a significant majority, 75% of participants think that it is very crucial and important. On the other hand, a relatively smaller percentage, 25%, of participants think it is somehow important. That means all of them think it is relevant and important to some extent.

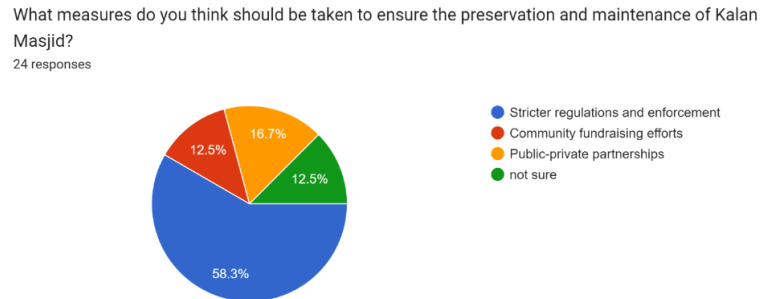


Fig. 24: Responses for measures to be taken for Kalan Mosque
Source: Google Form questionnaire by Author

Through this question, the authors investigate whether according to the community living in the area, which type of measures should be taken to ensure the preservation of the Kalan Mosque. of the area or not. The findings reveal that 58.3% of participants think that stricter regulations and enforcement are the most important measures. 12.5 % of the participants think that community fundraising efforts are the most important. 16.7% of the participants think that public partnerships are the most important. On the other hand, a relatively smaller percentage, 12.5% of the participants are not sure what measures can be taken for the preservation of historical buildings.

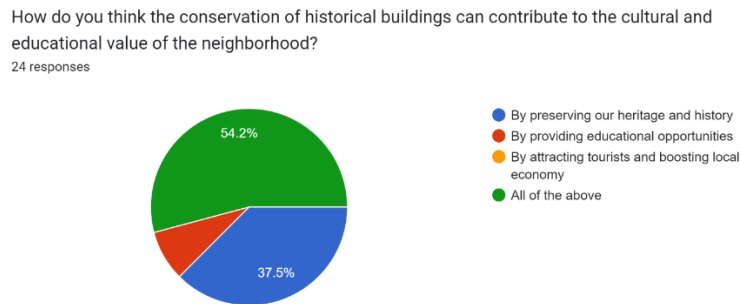


Fig. 25: Responses for the importance of conservation of historical buildings for cultural and educational values
Source: Google Form questionnaire by Author

Through this question, the authors investigate whether according to the community living in the area, how the conservation of historical buildings can contribute to the cultural and educational value of the neighborhood. The findings reveal that 54.2% of participants think that preserving our heritage and history, providing educational opportunities, by attracting tourists, and boosting the local economy, all can be boosted by the conservation of historical buildings for cultural and educational values. 37.5% of the participant think that preserving our heritage and history can contribute in the conservation of historical buildings for cultural and educational values... On the other hand, a relatively smaller percentage, 8.3% of the participants think they are important for providing educational opportunities.

Questionnaire for offline interaction on site

Name: Fareed Ahmad.

Age: 51 Years.

Address: Bulbule Khanne.

Q1. What changes have you seen in your life in this area?

Ans. Incorporation of new marble floor (musallah), mimber and wall incorporation of Arabesque.

Q2. What significant changes which you think crucial?

Ans. Nothing.

Q3. Do you have any resident welfare associate or mosque committee?

Ans. Yes, Masjid committee and run under Delhi waqf. Board.

Q4. Are you a part of meeting which are held for any changes in the area?

Ans. No.

Q5. Which organization or individual is responsible for the development works?

Ans. Sadar of committee and Delhi Waqf Board.

Q6. How often you visit to masjid?

Ans. Daily.

Q7. Who is the decision maker in case of Masjid related issue?

Ans. Committee of mosque.

Q8. Do you know who are living on the occupied mosque premises and since when they are living there?

Ans. Yes and they are living since many generations.

Q9. Was it always the same condition as before?

Ans. No, Painted in 1980's early.

Q10. How much is the involvement of local resident or committee into its development decision?

Ans. Committee of mosque and local resident all together make decision related to development decision.

Q11. Are the local residents aware about history of mosques and its time period?

Ans. Yes, all children and elders live in vicinity are aware about history and its importance.

Q12. How much you know about cultural and historical heritage or not?

Ans. It plays very important role culturally as well as historically on me and my family. Ever Since childhood I visit here and find peace and spirituality.

Name: Naeem.

Age: 55 Years.

Address: Kalan Masjid Lane.

Q1. What changes have you seen in your life in this area?

Ans. Incorporation of new marble floor (musallah), mimber and wall incorporation of Arabesque, New Wazu Khanna, paint, etc.

Q2. What significant changes which you think crucial?

Ans. Proper preservation by unbiased conservationist according to law.

Q3. Do you have any resident welfare associate or mosque committee?

Ans. Yes, Masjid committee and run under Delhi waqf. Board

Q4. Are you a part of meeting which are held for any changes in the area?

Ans. Yes.

Q5. Which organization or individual is responsible for the development works?

Ans. Sadar of committee and Delhi Waqf Board.

Q6. How often you visit to masjid?

Ans. Daily.

Q7. Who is the decision maker in case of Masjid related issue?

Ans. Committee of mosque.

Q8. Do you know who are living on the occupied mosque premises and since when they are living there?

Ans. Yes and they are living since many generations.

Q9. Was it always the same condition as before?

Ans. No, Painted in early 1980's.

Q10. How much is the involvement of local resident or committee into its development decision?

Ans. Committee of mosque and local resident all together make decision related to development decision.

Q11. Are the local residents aware about history of mosques and its time period?

Ans. Yes, all children and elders live in vicinity are aware about history and its importance.

Q12. How much you about Cultural and historical heritage or not?

Ans. It plays very important role culturally as well as historically on me and my family. Ever Since childhood I visit here and find peace and spirituality

Name: Mohammad Saad Qureshi.

Age: 25 Years.

Address: Vicinity of Mosque.

Q1. What changes have you seen in your life in this area?

Ans. Incorporation of new marble floor (musallah) and member.

Q2. What significant changes which you think are crucial?

Ans. Modernization.

Q3. Do you have any resident welfare associate or mosque committee?

Ans. Yes.

Q4. Are you a part of meetings which are held for any changes in the area?

Ans. My grandfather is Sadar of the committee.

Q5. Which organization or individual is responsible for the development works?

Ans. Waqf Board.

Q6. How often you visit to the masjid?

Ans. Daily.

Q7. Who is the decision maker in case of Masjid related issue?

Ans. Masjid Committee.

Q8. Do you know who are living on the occupied mosque premises and since when they are living there?

Ans. Yes and they are living since many years.

Q9. Was it always the same condition as before?

Ans. No.

Q10. How much is the involvement of local resident or committee into its development decision?

Ans. Committee of mosque and local resident all together make decision related to development decision.

Q11. Are the local residents aware about history of mosques and its time period?

Ans. Yes.

Q12. How much you about Cultural and historical heritage or not?

Ans. It plays very important role culturally as well as historically on me and everyone. Whether its Ramzan, Occasion of Eid Ul Fitr, or Eid Ul Azha all the festival is connected to this Beautiful Mosque

Design Proposal

This proposal aims to present an integrated urban development plan that encompasses the conclusions and recommendations derived from a comprehensive analysis. The plan focuses on preserving cultural treasures, empowering the community, facilitating resettlement and rehabilitation, adhering to comprehensive guidelines, safeguarding the cultural legacy, balancing development and preservation, fostering public engagement, establishing a robust regulatory framework with architectural harmony and a sense of enclosure phenomenon and safety.

Integration of Fire Access Road for Public Heritage Building

This proposal emphasizes the integration of a fire access road as a crucial recommendation for the development of a public heritage building. The existing site is surrounded by roads up to 9 meters in width, but a dedicated fire access road is necessary to ensure the safety of the building and its occupants. Clearing encroachments and designing properly carved internal roads are proposed to facilitate fire tender movement. This recommendation is vital for fulfilling all the architectural objectives outlined in the ten points of conclusion.

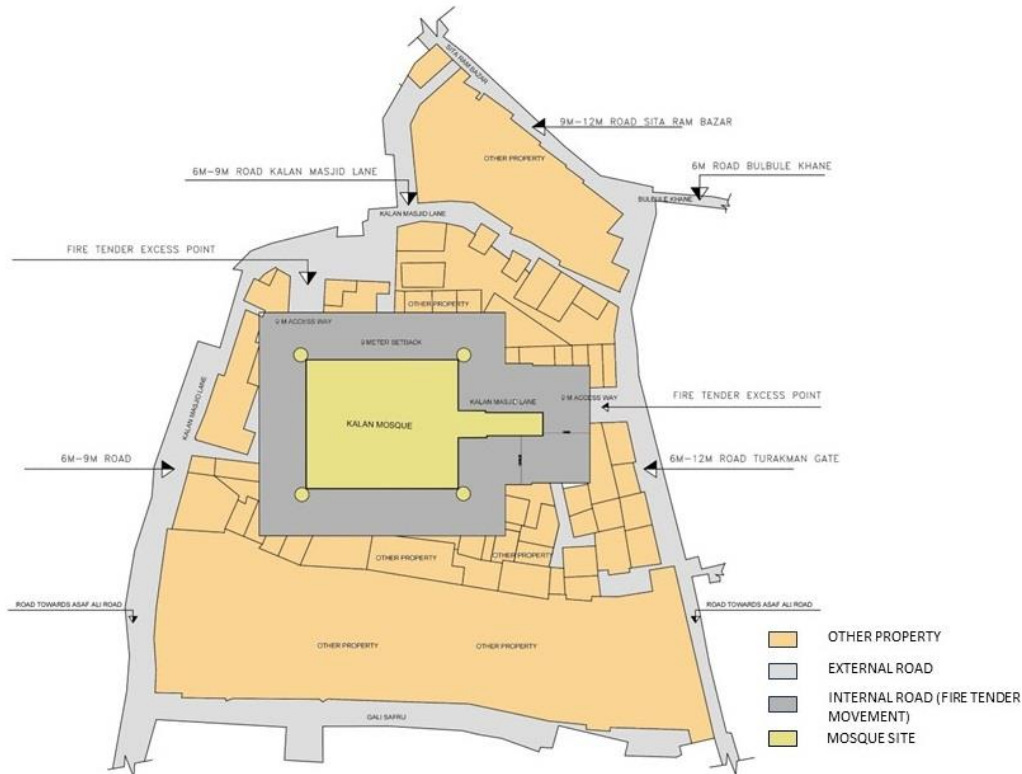


Fig. 26: Proposed Plan
Source: Plan made by Author

Implementation Plan

To incorporate a dedicated fire access road within the design of the public heritage building, considering architectural principles and safety regulations. This integration will ensure efficient and unhindered movement of fire tenders in the event of a fire emergency

- **Site Analysis:** Conduct a thorough analysis of the site and its surrounding road network to identify the most suitable location for the fire access road. Consider factors such as proximity to the building, ease of access, and minimal disruption to the architectural design.
- **Road Clearance and Encroachment Removal:** Collaborate with relevant authorities to clear any encroachments obstructing the proposed fire access road. This may involve acquiring necessary permits and ensuring compliance with local regulations.
- **Design of Internal Road Network:** Engage architectural and engineering experts to design a well-planned internal road network that seamlessly integrates the fire access road within the overall site layout. Ensure the road is of adequate width, allowing for smooth maneuvering of fire tenders.
- **Emergency Vehicle Specifications:** Coordinate with fire department officials to determine the specific requirements and dimensions for fire tender movement. These

specifications should be incorporated into the design and construction of the fire access road.

- **Signage and Markings:** Install clear and visible signage along the fire access road, indicating its purpose and providing directions for emergency vehicles. Implement appropriate road markings to ensure easy identification and navigation during emergency situations.
- **Collaboration with Fire Department:** Establish effective communication channels and collaborate with the local fire department to ensure their input and requirements are incorporated into the design. This will facilitate seamless integration of the fire access road within the overall fire safety plan.
- **The integration of a dedicated fire access road:** Within the architectural design of the public heritage building is crucial to ensure the safety of the structure and its occupants. By implementing this recommendation, the building will be better equipped to handle fire emergencies, aligning with the principles of architectural safety, and fulfilling the objectives outlined in the ten points of conclusion.

Conclusions

Based on careful observations, extensive research, on-site studies, and interviews conducted through questionnaires, the following crucial points have been identified for immediate implementation:

- **Preservation of Cultural Treasures:** An urgent emphasis must be placed on safeguarding our invaluable heritage sites, encompassing architectural marvels, precincts adorned with historic monuments. To achieve this, the adoption and enforcement of Annexure 2 of the Heritage Conservation Code (HCC) are imperative.
- **Community Empowerment Initiatives:** Recognizing the paramount significance of community involvement, the implementation of programs aimed at fostering community development is crucial. These initiatives, guided by the HCC committee, will engender a sense of ownership and shared responsibility among the populace.
- **Resettlement and Rehabilitation:** Addressing the predicament of encroachments necessitates the proper resettlement and rehabilitation of affected individuals. This endeavor should align with the directives outlined in the Prime Minister's Awas Yojana (PMAY).
- **Adherence to Comprehensive Guidelines:** The efficacious preservation of our cultural heritage demands meticulous adherence to well-defined guidelines. These guidelines, encompassing a broad spectrum of considerations, must be formulated with utmost clarity and rigorously adhered to.
- **Safeguarding Cultural Legacy:** The conservation of our heritage sites encompasses the preservation of distinctive architectural structures, historically significant areas, and environmentally crucial precincts. These precious relics contribute to our cultural and aesthetic heritage and must be safeguarded accordingly.
- **Balancing Development and Preservation:** It is imperative to impose appropriate restrictions on development, redevelopment, and repair activities that may jeopardize the integrity of our heritage sites and their surroundings. Striking a harmonious balance between progress and preservation is vital.
- **Public Engagement:** Prior to finalizing any decisions, active solicitation of public input is essential. Welcoming and duly considering objections and suggestions from the public will ensure a comprehensive and inclusive approach, garnering support and fostering a sense of collective ownership.
- **Robust Regulatory Framework:** To reinforce the preservation efforts, authorities must establish robust bylaws that can be periodically supplemented in response to proposals received from relevant agencies and authorities.
- **Harmonious Urban Planning:** When contemplating road widening projects outlined in the master plan or layout plan, meticulous consideration must be given to existing heritage buildings. Ensuring the preservation and integration of these architectural

- gems is of utmost importance.
- Architectural Harmony and Sense of Enclosure phenomenon: Maintaining the visual coherence and architectural harmony of the surrounding environment should be a guiding principle during any development or construction activities. This will help preserve the unique character and identity of the area. Restricting Surrounding buildings height below in order to preserve the value, beauty, and unobstructed views from these heritage sites, it is essential to avoid any actions that may diminish or destroy them. In conclusion, by placing due emphasis on these architectural considerations and diligently implementing them, we can protect our rich heritage, foster community development, and secure a sustainable future for generations to come. Through collaborative efforts and unwavering commitment, we can be the stewards of our cultural legacy, passing it on as an enduring gift to future generations.

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