

A comparison between the current and 60-year-old conditions of sultanate heritage in Delhi;

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Abstract

The historical monuments in urbanized Delhi was considered to compare between 60 years past and present. Historical Delhi occupied broad space and the center of the city moved from place to place in medieval times. After 1980's the population of Delhi increased more than tens of millions and the built-up area also increased.

The Research and Information Centre for Asian Studies attached to the Institute for Advanced Studies on Asia, University of Tokyo has been engaged in an inventory of photos of Islamic architecture in India, which were taken by the Mission for Indian History and Archaeology at the University of Tokyo. They conducted field studies for the whole of Delhi twice, in 1959-60 and 1961-62. The purpose of the research group was to survey Islamic architecture of the entire Sultanate Period (1191 to 1526). They listed 61 mosques, 72 graveyards, 142 tombs, 52 water works and 58 other items.

Our surveys in 2015 and 2018 are to check the situation of these medieval monuments. The monuments that are nominated as heritage sites, are protected by the Archaeological Survey of India or other public organizations and most of them are located in currently parks, but few exist in the crowded built-up area. Others are not protected or demolished. In this category, there are some varieties. To compare their locations, many monuments exist in an informal development, like slums, and many monuments are demolished in the formal urban development. Through this study I want to consider how historical monuments can coexist in an historic city.

Keywords; History, Urban Development, Islamic Monument, Preservation,

Brief urban history of Delhi (Fig.1)

The urban history of Delhi is divided into 9 phases. The first era is the capitals of Hindu Raja (king), the name of the city was Indrapasta in the fifteenth century B.C. by Mahabharata, and the name of Lalkot was appeared in the tenth century A.D. constructed by Rajput Clan when the Hindu temples and Suraj Kund (Lake) were constructed. Lalkot situated the Qutb Mosque site and the fort wall was excavated.

The second era is from Hindu fort to Muslim city. The Chauhan dynasty captured Lalkot and they enlarged city area, the city was named Qilah Rai Pithora in 1180. After ten years, Turkish Muslim troops invaded there through Khaibar pass and they made Friday mosque inside the Lalkot Fort in 1190, and called it Quwwat al Islam (the power of Islam, usually called Qutb Mosque) using spolia from Hindu temples and palaces. The population of the thirteenth century was estimated about eighty thousand.

The third era is making the fort cities in Delhi plateau by Turkish Muslim sovereigns one after another. In 1303, Khalji dynasty constructed Siri Fort to the northeastwards from Qilah Rai Pithora. In 1321, Tughluq dynasty built new fort city Tughluqabad at quite east direction. In 1327, they connect Qilah Lai Pithora and Siri, as broad fort city was called Jahan Panah. In 1354, they established new Firoz Shah Kotla (Firuzabad) in further north. These fort cities are very vast, Lalkot occupied only 43ha, although Qilah Rai Pithora occupied 337ha, Siri; 176ha, Tughluqabad; 197ha, Jahan Panah; 790ha, though the last Firuzabad was not so broad it occupied around 9ha. The monarchs constructed Friday mosque, palaces and water facilities in each fort cities. Delhi was flourished in the 14th century so the population was increased around 125,000. And they conquered not only north India but also other regions of India. On the other hand, some small fortification had been constructed for religious core, for example Nizam ud'din, Chiragh Delhi or Qadam Sharif.

The fourth era is from the 15th to 16th century, governed by Afghan Muslims. After the invasion of Timur from Central Asia, the Tughluq dynasty was in decline and Afghan troops invaded to Delhi. With the political situation, the population also decreased to 50,000 to 80,000. They constructed small fort enclosures. Mubarakpur Kotla was established by Mubarak Shah Sayyid in 1421, Purana Qilah and Salimgarf were constructed by Sur dynasty, in 1533 and 1546.

The fifth era is from 1639 to the end of the 18th century, when Shah Jahanabad, as the capital city of Mughal Empire was constructed. Mughal empire occupied Indian

Continent and the capital city enclosed by wall occupies 587ha. The palace enclosure was faced to Jamna River, and the central street was lined to the west direction. Paralleling to Lahore and Agra, the city was flourished, so the population increased around 300, 000 to 500, 000.

The sixth era is from the early 19th century to 1911, the power of Mughal was declined and it was colonized by Britain in 1857. The railway was laid in 1864, and the population of Delhi was increasing, around 140,000 to 207,000. So that the urban area was sprawled beyond the city wall without enclosure wall.

The seventh era start from 1911 when the capital was moved to Delhi from Kolkata. The new political geometrical city with gardens was constructed. The area was 1220ha. And the population was also increasing, from 207,000 in 1900 to 1,369,000 in 1950.

The eighth era is for the age of urban sprawl from 1950 to 1980, the Survey of the Mission for Indian History and Archaeology University of Tokyo was done from 1959 to 1962, just at that time the urban area was limited (Fig.1).

The ninth era is for the greater Delhi from 1980 to now. After economic open-door policy, enormous increasing of population and urban area had happened. The urbanized living area was developed based on the green city of Delhi with low apartment and green area. However, the poor peoples lived old urbanized area also new informal urbanized area.

The Mission for Indian History and Archaeology

The Mission for Indian History and Archaeology University of Tokyo was composed of Tatsuro Yamamoto (Leader, late honorary professor of Tokyo University), Matsuo Ara (Vice-leader, late honorary professor of Tokyo University, History), Tokifusa Tsukinowa (currently honorary professor of University of the Sacred Heart, Archaeology), Sashirou Saegusa (late Photographer), Taichi Oshima (late Photo surveyor). They conducted field study twice, in 1959-60 and 1961-62 (Fig.2). The purpose of the research group was to survey Islamic architecture of Sultanate period (beginning of 13th century - mid 16th century) entirely. In addition, important Islamic architecture in local areas such as Bengal, Deccan and Gujarat etc. was studied.

Filed by building, it was found that approximately 750 cases of data of Indian Islamic architecture, 500 cases in Delhi and 230 cases in local areas, were held. This

photo data is seen as precious data showing the state of the buildings, which have been destroyed, roughly repaired or became a part of urbanization, 60 years ago. Moreover, it is important to note that these photos were taken by large size camera and they made the survey of stereo camera making detailed plans, elevation and cross section (Fig.3).

They focused on the architecture of Delhi Sultanate and published three volumes of “Delhi” in Japanese.

The first volume is the inventory of monument. They listed 61 mosques, 72 graveyard, 142 tombs, 52 water facilities and 58 others. The period was divided into three phases; early, middle and late. Ghurid from 1191 to 1206, Sultanate from 1206 to 1320 and Khalji from 1290 to 1320 are included into the early phase from 1191 to 1320. Tughluq dynasty from 1320 to 1413 is the middle phase. Sayyid dynasty from 1414 to 1451 and Lodi dynasty from 1451 to 1526 are the late phase. Each monument was numbered by the function in the order of construction date and their architectural features for example M1 to M61 or G1 to G72. In this volume each monument was described by location and history, and we translate each description into English.

Table 1. The numbers of monuments by functions and phases

	total	Early phase	Middle phase	M. & L. phase	Late phase
		1191-1320	1320-1413	1320-1526	1414-1526
Mosque	61	2	29		30
Graveyard	72	0	11		61
Tomb	142	5	39	7	91
Water facility	52	4	31		17
Others	58	4	43	7	4
	385	15	153	14	203

The second volume described about tombs, while four tombs were selected, surveyed in detail and many figures were drawn (Fig.4). They selected T6 and T55 as a square walled tomb, T6 is the tomb of Ghiyath al-Din Tughluq died in 1325 from middle phase and T55 is the tomb of Shaikh Shihab al-Din Taj Khan constructed in 1501 from late phase. T78 was selected as the octagonal tomb with surrounding corridor, the tomb of Muhammad Shah Saiyid died in 1455. T82 constructed in 1376 by its inscription was

selected as the twelve-columned tomb. Subsequently all tombs as a target were dealt about locations, architectural features and the person buried for example saints or monarchs in the second part,.

The third volume described about water facilities, eight were selected and surveyed in detail (Fig.5). They selected W1 and W17 as round wells, W1 has the inscription of 1262/3 from early phase and W17 is the round well at Firoz Shah Kotla may be constructed in the reign of Firoz Shah (1351-88) from middle phase. From step wells, Baoli W18 and W26 was selected. They supposed that W18 is Gandak ki Baoli was constructed in the early phase because of the architectural feature and its location. W26 is Rajon ki Ba'ain, and the construction date was supposed around the early 16th century in the late phase because of additional mosque and tomb which has the inscription of 1506(T103). W47, W48 and W49 were selected as the sluices, W47 is the sluices at Tughluqabad, W48 is the Satpulah at Jahan Panah and W49 is the sluices at Wazirabad. These construction dates were supposed in middle phase. W44 was selected as a dam at Mahirpalpur from middle phase, and the length is 1.4 km. In the second part, all water facilities as a target were discussed about water management, their location, their founder, and the relation with religions and Hindus.

The fourth volume about mosques were planed although not yet published.

With these important historical sources of the Mission for Indian History and Archaeology University of Tokyo, our first aim is to arrange their photos drawings and to open to the public through internet. We started the HP of Digital Archive: Photo Searching from Function, Period and Location about Medieval Muslim Monuments in Delhi, in the collection s of the Institute of Oriental Culture, the University of Tokyo, in 2007 (Fig.6). <http://www.ioc.u-tokyo.ac.jp/~islamarc/delhiphotosearch/index.html>

Current situation of medieval Muslim monument

The second aim for these historical sources, we should make clear the current situation of medieval Muslim monument. Funded by the Research and Information Centre for Asian Studies attached to the Institute for Advanced Studies on Asia, University of Tokyo, Prof. Tomoko Masuya organized the survey of Delhi monument.

In August to September, 2015 and March, 2018, our team surveyed the current situation of 385 medieval Muslim monuments which had been surveyed by the Mission for Indian History and Archaeology University of Tokyo, in 1959-60 and 1961-62.

During 60 years urban area of Delhi sprawled so broad, and Delhi becomes green city or megacity.

Our team was consisted of So Yamane (professor of Osaka University), Shu Yamane (professor of Kansei Gakuin University), Kyota Yamada (lecturer of Kyoto University), Katsumi Shishido (assistant professor of Kagoshima Prefectural College), Tomoaki Okamura (researcher of Kokushikan University) and myself collaborating with INTACH through Dr. Divay Gupta. We were searching the location of these monuments from Google Earth and visited all the site in 2015 and 2018. And we made the comparable site between 1960s and 2010s on google maps (Fig.7). Unfortunately, around 30 % of heritage had been demolished in 60 years. However around 60 % are protected or used.

Table 2. The situation of 385 monuments in 2015 and 2018

		M.	G.	T.	W.F.	O.	Total		
demolished	Confirmed	6	1	8	11	2	27	113	
	Unconfirmed	8	33	14	18	12	86		
existed	Neglected		7	9	1	8	5	30	261
	Protected	Monument	18	12	67	13	25	135	
	Used	Religious	16	13	28	1	9	67	
		Private	6	4	24	1	5	40	
		61	72	142	52	58	385		

1) Demolished situation

113 monuments could not be found in its site. These are divided into two categories, 27 confirmed and 86 unconfirmed. Some monuments could identify the situation of demolished from its ruinous remains. However, in the case of small monuments like graveyards were very difficult to identify their location, and we could not identify the location through our two surveys.

For example, Shaikhpur Mosque M47 was demolished that we found the remains in the basement and the new mosque was built. This is included in the category of confirmed, demolished (Fig.8 above). About Qadam Sharif Mosque M21, we heard from the person who was in charge of Qadam Sharif that the old mosque was demolished around 2000 and new mosque was built, and we also confirm the old materials at the site

(Fig.8 below)

On the other hand, we could not find some monuments around its location which was shown in the survey map, so we supposed that it would be demolished. For example, O51 was an unique architecture of steamed public bath constructed in the 15th century. It has nine domed chambers in 1960's, but totally had been disappeared and the new park was constructed (Fig.9 above). The location of T69, Idgahwala Gumbad, was shown near Chor Minar and Iqbal Khan's Idgah which were existed and protected. The site becomes park and we could not identify its remaining (Fig. 9 below). In these cases the monuments might be demolished for the creation of green land.

Not for the public park but also informal urbanization makes difficult to identify the sites of monuments (Fig.10). In the cases of G60, with the inscription of 1511, this huge wonderful structure could not be found in the 2015 survey. On Google Earth it can be seen that there is a plot 25m (north-south) by 15m (east-west) with a wall on the west, to the west of where Kalka Das Marg winds slightly. In the 2018 survey, this was found to be the Huron Ki dargah from the Mughal Dynasty, and not G60. It is thought that the structure was incorporated into a residence or destroyed altogether. In the case of M58 Muhammadpur's mosque, wide roads and high-rise buildings have been built in this area. In the 2015 and 2018 surveys, the remains could not be found. Though these have a few possibility of existence inside the crowded housings.

It is very interesting that till 1970's the heritage was demolished under the formal development like parks and high-class residential area. For example, Vasant Vihar was developed from 1960's, and there were 17 monuments, though these could not be found totally in 2015 and 2018, so these might be demolished through formal development (Fig.11). On the contrary some monuments still existed to be used own houses under the informal development by privatization, as I mention after. However, the converse phenomena occurred after 1980's.

2) Neglected situation, existed

If the monument escaped from demolishing and to still existed, it will cause miserable result under the neglected situation. Neglected situation means without maintenance and the ownerless situation.

Some monuments are neglected in the broad parks under the greening of Delhi (Fig.12). It becomes garbage place or demolished and they show ruinous situations.

Mosque M15 at Sultan Ghari was protected by ASI, although half demolished and ruinous situation. This was found covered with weeds in a jungle, but with an ASI signboard. In *Delhi*, it is written that this structure had collapsed between 1959 and 1962, leaving just the west wall. It has further deteriorated; only the walls of the southwest section remain. Round well W11 which had inscription of 1509 at Hauz Khas area becomes the garbage dump. The cut stonework can be seen in a jungle in a park. It has been abandoned; it is poorly maintained and is collecting rubbish. According to *Monuments of Delhi*, it had a round shaft 6.6m in diameter. In the 1959-62 photos, the cut stonework of the round shaft and the surrounding octagonal section can be seen. Its distinguishing characteristic is that the cut stones are considerably larger than those used in the round wells of W1 to W10. Kala Gumbad T18 was situated in DDA Park and demolished because of plants of jungle. We only found the materials on the ground.

Neglected situation causes ruinous situation and the latter will become demolished situation (Fig.13). The Baoli W21 at Hauz Rani had been existed partly till the survey of INTACH (1995, F199), but now only the small upper part was remains and it would be demolished. T43 was used for house in 1960's and this structure has an ASI cultural asset signboard. In 1959-62, the south side was closed, but it is now open. There is filler in the stonework, and surfaces were covered with stucco during repairs. The building has since been neglected; it is buried further underground compared to 1959-62, and there is water collecting inside, so gradually it will be neglected without maintenance in the Meherauli Archaeological Park. So quick maintenance should be needed.

3) Protected monument, existed

Around two thirds of monuments are protected and the most of all by ASI. One of the most prominent methods for protecting by ASI is to make the green park around and to let locate monuments inside, for example huge Hauz Khas area including many monuments (Fig.14). O24 madrasa of Hauz Khas has L-shaped arrangement with two wings and the north wing has been restored by ASI, and the structure is now a park monument. At the folding point, T9 tomb of Firuz Shah Tughluq locates and is one of the main buildings of the park and is open to the public. Metal lattice doors have been placed in the openings, and the colors of the intersecting band design inside the dome have been restored. The lower part has been repaired by filling the damaged parts with stucco. There appear to be no major changes from 1959-62. However, M11 mosque of Hauz Khas

which locates at the north point of the north wing of O24 had become privatized in 2015, despite it being in an area designated by ASI, and we could not enter. In 2018, it was undergoing repair as part of a plan to open the monument to the public. O14 located at the center island when Hauz Khas constructed in the middle of 14th century, it has become a pavilion at the top of the hill in the Hauz Khas park. Compared to the photos from 1959-62, about 3m more of the plinth has been dug out and exposed. The finish on the upper part remains. However, there were no water in the lake in 1959-62, now some part near O24 and T 9 becomes lake, further the area four times the size of original Hauz Khas becomes green park.

Little bit smaller Wazirpur Gumbad Park includes 5 tombs, 2 graveyards (wall mosques) and one stepwell, and these buildings are protected as monument and restored (Fig.15). W30 stepwell is restored in a mausoleum park. In 1959-62, the steps were buried in sand, but today the well has been excavated and restored by ASI. Though, it has no water. G24 graveyards, has been restored as a monument in Wazirpur Gumbad Park. In 1959-62, the south side wall had fallen, and the south corner and the plinth before it were damaged, but these have been repaired. The plinth has been cleared and leveled around the existing cenotaphs, and steps have been added to the east side. The medallions above the center mihrab, and the stucco relief in the small arched niches between the mihrabs have been preserved. G29 another graveyard has been repaired and is preserved as a monument in this park. When the park of tombs was created, the structure underwent a large-scale restoration alongside W30 and G24. It is thought that it was originally constructed as a large wall mosque for T48 the biggest tomb of Wazirpur, with nine mihrabs, side walls, and round turrets on the ends. In the 1959-62 photos, there was a large hole around the mihrab two south from the center mihrab, and the round turret on the southern end had fallen, but these parts have been repaired and rebuilt. As for the west side of the wall, there is currently thick undergrowth in the 5m space between it and Gurudwara Sri Guru Nanak Sabha, and could not be accessed.

Though, if it is tiny architecture and locates in the huge park, it is swayed by the green jungle. To compare the photos between 1960's and now, the green area is increased significantly because of the urban policy of green Delhi (Fig.16). In the case of six-pillared tomb T126, a road runs in the east-west direction south of Hauz Khas Lake, and today a high wire fence separates the road from the bushes. T126 was found in the bushes about 30m south from the road, on a relatively large rectangular plinth. The

foundations of an arch remain on the south side of the plinth; this opening leads to an arch-shaped opening below the south side of the structure. This is thought to have been the cenotaph room. The foundations of a well also adjoin this plinth. The structure is buried in the jungle; thus, many aspects are unknown. Palace building O18 of Siri was found in the bushes of a green park. It has further deteriorated since 1959-62. Vegetation grows thick, and it is very difficult to access, so no one accessed, so is on its way to complete ruin. Eight-pillared tomb T123 was situated at Meherauli Archaeological Park, although it stood on a square plinth that had two arched openings on its south side and adjoined the southeast corner of the plinth of T131. In the 1959-62 photos, the stonework of the plinth is already quite damaged, and since the pillars are thin relative to the size of the dome, it is surmised that the structure fell due to natural deterioration and was probably promoted by the power of tree's roots, and was demolished at last. Currently only the plinth remains, with building materials strewn about like its onion shaped ornament had been existed on the top of the dome.

When the monuments which protected by ASI were located in or in the vicinity of urbanized area in 1960's, there is the problem of informal urbanization, it is too difficult to sustain to protect. T41 at Mujahidpur located the edge of village, however by the urbanization, it locates between buildings and was repaired in 2015 (Fig.17). T41 has projecting portals in each side and oriels along east portal with special decoration, though south and west side were covered modern houses.

The tomb of Mubrakshah Sayid T77 and the mosque of Mubarakpur M32 were situated the urbanized village Mubarakpur in 1950's already, so it gets involved in the high-rise today (Fig.18). T77 is preserved by ASI and surrounded by an iron fence, but it is hemmed in by high-rise buildings and strewn with rubbish. At the courtyard of M32, there is an ASI signboard. Its front courtyard can be accessed through a narrow passage between buildings; there is no proper entrance or exit. It has become a gathering place for youth. The interior is strewn with rubbish, as is the front courtyard, and it is not maintained very well. In 1959-62, there were gates of M32 and Mubarakpur Kotla: a north gate in line with the west surface, and a similar gate facing southwest to the south of the west wall. These gates could not be found today.

On different note, old village itself is heritage relating the monuments as follows. There is a south gate of Mubarakpur Kotla 75m from the center of T77, and in the 1959-62 photos, the west gate of Mubarakpur Kotla was located north of M32.

Considering these locations, an urban area in the shape of an octagon diameter around 170m can be seen with T77 as its center on Google Maps. Mubarakpur Kotla is thought that there was originally an octagonal surrounding wall with gates on four sides, T77 in the center, and M32 inside the enclosure. Old villages tend to retain their original network of streets while building higher and higher, making it difficult to protect the ruins left among the high-rises.

Other problem is for the function of monuments. Protected mosques by ASI, usually to pray is prohibited, it means the monument loses the religious function and exists only historical open museum. Sometime it is locked and difficult to enter. In the case of mismanagement, it becomes to gathering spot for young males, there is lettered with garbage (Fig.19). M7 Khirki Masjid is managed by ASI. It is surrounded by an iron fence and only tourists are allowed to enter. There is a sign on the fence that forbids religious gatherings or worship without prior permission. The ruined condition of the small northeast courtyard seen in the 1960s remains the same. The sheer size of the mosque also makes it difficult to keep in good condition; bats live around the mihrab and cover the interior spaces with droppings. Furthermore, because M7 is situated on low grounds, the space around it became a moat of sorts when the surrounding area turned into residences; the "moat" has overgrown weeds and rubbish. On the west side of the Chiragh Delhi dargah, the grounds of T133 are a designated ruin, being enclosed and repaired by ASI. However, it is not maintained very well, and inside there is filth and rubbish. The arch spandrels and the bas-relief inscriptions of the mihrab seen in the 1959-62 photos have been lost.

About the organization for preservation, there are some organization to protect the monuments. For example, O15 Buli Bhatiyari ka Mahal in Delhi Ridge was protected under Delhi Tourism and Transportation Development Corporation. O33 villa for hunting in Firoz Shah's time was used for elementary school in 1960's and now it is used for community facility by local authority, though these two monuments are very bad situation without maintenance (Fig.20).

Although T15 half-demolished but is protected by Venu Eye Institute & Research Centre as a monument. O34 Kharbuze ka Gumbad is preserved as a monument in the courtyard of Montessori Rainbows School (founded 1982). Though it was reportedly moved and rebuilt elsewhere, the delicate balance of the extant building's parts is as seen in the 1959-62 photos. It is thought that the foundation was dug out, and the

structure preserved in its original location. These two monuments show half ruined situation though it maintained well and the owners admit the value of protecting as their heritage. (Fig.21)

4) Used for religious facility, existed

When the monument is used for religious facility, it cannot be denied that the new decoration for example painting new color or white wash are adopted the monument continuously. However, the monuments become active and useful as living heritage.

In the case of Nizam al-Din Dargah, almost monuments are preserved and used for religious usage, although two tombs T139 and T140 are demolished. We could not know how they came about demolish, though if the monument locates inside religious complex, it doesn't always have to be protected (Fig.22). M2 Jama'at Khana Masjid is one of the oldest mosques in Delhi, so it was registered as the national monument by ASI. In 2015, the central domed room was under reconstruction by the Aga Khan Fund, and scaffolding covered the inside of the dome. The changes from 1959-62 are as follows: the interiors of the rooms on either side have been covered with additional white stucco, the patterns at the top of the domes have been painted in colors, the north room has become a room for women, and the back of the south room has become a storage space. The facade has been thickly painted in red, white, and green. The interior of the large domed room has similarly been painted over, but some paint has been removed during the repairs to expose the red sandstone surfaces around the dome. In this point, we have to think about the preservation for living religious heritage.

In the case of using Muslim religious facility, we also find some change because of their piety and devotion. Dargah of Nizam al-Din is crowded with devotees today too, the urban environment had changed (Fig.23).

In this case, dargah of Shaikh Salah ad-Din, there were no religious facility in 1960 and it had been the ruin, but in 60 years it regains the religious facility (Fig.24). T86, tomb of Shaikh Salah ad-Din (died 1340), it was enclosed by jail wall and it had a mihrab in the west, though they were disappeared in 2015. And M23, one small mosque was rebuilt new mosque using west old wall and the M16, big mosque was totally ruinous situation. Moreover, T20 canopy tomb was used for private storage and T81 12 pillared tomb was used for private living house, O32, Majlis Khana was ruined too.

Not only the decoration the new technique for example reinforced concrete or

new material for example rigid PVC sheets were used to maintain the monument (Fig.25). M6, Kali Masjid built in 1370/1 by its inscription, was rehabilitated and rebuilt and used for prayer. Some sections have been repaired in a revivalist style, but there is also modern construction using ferroconcrete pillars and slabs, such as the north side of the prayer hall and the ablution facility of the northeast courtyard. M12, Chausath Khamba Masjid also functions as mosque. The building on the west is covered in such a thick material that the original material remains unknown; two piers have been erected on its east side to raise a roof, but the cross vaults remain as they were. The building on the east is better preserved than the mosque. It has been painted white and green, a new ablution facility has been constructed outside its south side, and almost all the arches facing out have been closed off, except for the two arches of the entrance to the ablution facility. In the space between the east and west buildings, there is a platform the same height as the floor of the west building; above, a lean-to roof covers the area.

One new religious facility for Muslim heritage is mosque-madrassa (Fig.26). It is Muslim education center for children from elementary school to high school. Only for male students and they live in there with their teachers. The students are not only from Delhi but also some rural place. Some of them are focusing on orphanage. G62 is indicated the Jamia Arabia Anwar ul-Islam, a mosque madrassa. The structure has been painted white, with green and light-green paint in certain parts. The bas-relief and other decorative elements remain. Steel poles and a temporary roof create a prayer space in front of the center mihrab. Rooms have been added to the south of the east side as residences for students and teachers. Steps to the east gate have been built and a facility for ablutions has been added outside the south side. M43 Makka Masjid is used as a mosque-madrassa, and dormitory. A new hall has been created to the east of the prayer hall, which is now a closed room in the back. Openings for natural light have been created in the mihrab wall. The stucco relief medallions above the arch spandrels on the east facade have been lost.

It is very interesting we found the Muslim monument are used for the other religious facility, Hindu or Sikh (Fig.27). There are 6 examples and Muslim tomb architecture turned to other religious facility. T114 has become a Sikh gurdwara. Only the center part of the west side remains open; all other parts now have walls. Both the exterior and interior have been covered in white stucco. A large anteroom has been added onto the west side. In other case, T32 is used as a Hindu temple; it has been colorfully

painted and changed in many places. Tiles have been added to the mihrab surface, and there is a statue of a Hindu god placed inside. The structure has been thickly painted and finished as a cube with no projections except for the dome. Its exterior has been painted in sections of red and blue. Only the east entrance is used, and there are now windows on the north and south sides. The surrounding area has become a green space in a residential area. T85 was the dargah of Rana Sahib originally and it was devoted by Hindu peoples in 1970s. The Ranajee shrine was constructed to memorize Yogi Gorkanath died in 1975 next to T82. The style of architecture of shrine uses twelve-pillared tomb. At last T82 was included Ranajee shrine.

5) Used for private facility, existed

Many heritage are used for private houses or burns, divided some families or without maintenance. Perhaps the problem between their property and residency right is existed. But we have to solve these problems to sustain the heritage.

To use mosques as private facility, six cases are confirmed, and are not so many (Fig.28). For example, M9 was found surrounded by buildings, but we could not go inside as it has been converted to a residence, and they refused to enter in. The south part of the prayer hall and the north corridor were already collapsed in the 1960s. While similar M60 was a three domed mosque originally, a two-story dwelling abuts the structure and blocks the west half of the south facade. The structure itself has been partitioned for use by four households. One household occupies the south vaulted bay and uses the south entrance; it has a new wall on the north, and an east extension using the original arch on the east. The center bay, which we did not enter, has a new wall and door in the arched opening to the east. The north bay is divided by a partition wall in the center and used for storage by two households; its vaulting has been replaced with ferroconcrete. In M60 case, the inhabitants accept us to enter in and to take photos.

Most prominent cases are using tombs as private house or storage, there are 24 cases (Fig.29). T75, tomb of Khan Jahan Tilanghani and the first example of octagonal tomb with corridor in North India, so it is very important heritage. Already in 1959-62, the arcade was divided into dwellings; in 2015, it had been further divided into two layers to create more dwellings, and the rooftop was also in use. Only the main room retained its original shape; although it was maintained as a saint's tomb by the residents, it was badly damaged. The tomb was surrounded by high-rise buildings and about to disappear.

In 2018, the Nizam al-Din village preservation project by the Aga Khan Foundation had progressed; the residents were given new accommodations quite far away and were in the process of moving out. T111 has been left behind in a crowded and dense urban area in Zumurudpur and is used as a shed by local residents for community use. It has not been maintained and is badly damaged.

At the south part of Delhi, the informal dwellings are enlarged just now and the historical monuments are used their houses or storages (Fig.30). It is very difficult to find out their location because many temporary houses have been built. T17 has become a residence, and its facades could not be seen due to the temporary dwellings surrounding it. There is a new entrance on the north side, and the openings on the east and west have been closed off. In an area with many temporary dwellings, an outer wall believed to be a part of O31 was found, along with partitioned rooms. There are complicated building additions that are further divided by walls, making it impossible to grasp the structure in its entirety.

6) The usage of heritage

When the heritage is including private property, and the owner admits the value of heritage, the owner wants to preserve it (Fig.31). O19 Bulbul ki Mahal in Siri is protected by the owner of Jhankar Banquets and use for the backdrop of Ceremony Hall. We met the owner and interviewed how to think about this heritage. In the case of W25 and G50, we could not find in the 2015 survey. According to INTACH, it is clear that in the 1990s, F465 (W25) existed in the Kamal Nath Farm. It is quite possible that it is still on the farm and it can identify by the Google Maps. In similar case, M45 is possible that this is the Kharera Mosque (Sri Aurobindo Marg, Kharera, Hauz Khas, New Delhi, Delhi 110016) that was incorporated into Sujana Luxury, but we could not determine this onsite. In the area there are also the remains of the surrounding wall of Kharera village. This tendency is continuing and the preservation by private organization or person is noted. As mentioned before, T15 and O34 are the same cases (Fig.21).

Under the protection of ASI, there are few cases that the location of monument was including not only the heritage park but also some facility, like zoo, golf course or stadium in 1960's. National Zoological Park Delhi was established in 1920's and Delhi Golf Course was in 1930's. So this method originated in British time. T98 located east of Lodhi Park and west of Humayun Mausoleum. Already in 1959-62, it was in a golf course.

In 2015, we were told that it was in the Delhi Golf Course, but as we were unable to enter, we have not seen the structure. T116 is located south of Purana Qilah, in the zoological park north of the Humayun mausoleum in 1960's. It is still preserved today as a monument in the zoological park. In 1980's this tendency continued, for example Phuta Gumbad T30 has been repaired and preserved as a monument among modern public buildings; it is right next to Jawaharlal Nehru Stadium built in 1982. In 1959-62, it had cracks in the dome and walls, and was nearly in ruins.

To use public facility, as living heritage is very rare case in Delhi. In 1950's, it was tried to use as hospital in T138. By 2015, the hospital had closed, and in 2018, it was used as an office of the Public Health and Sanitation department. The ceiling of the outer corridor is made of ferroconcrete. It is thought that it was originally a domed building with a square plan, and that additions were made to the tomb architecture when it became a hospital. To use tomb as the Enclave office in 1980's and still continue in T132.

As today's example, to use tomb as gateways for community was done in 2015, and it seems successful in T61 at Katwari Sarai. Today, Katwari Sarai is in an academic zone, bounded by the Outer Ring Road on the north, the New Mehrauli Road on the south, and Aruna Asaf Ali Marg on the west. It was not ASI, but a local organization that managed the repairs that finished a few years ago and now uses the ruins. The structure is now the west gate into the city, and there is a parking lot on its west side. The north and south sides are adjoined by high-rise buildings, and the east side leads to a narrow alleyway. There are lights inside, with phone and electricity lines strung across from the opening above the west entrance to its counterpart above the east entrance.

Summary

These can be summarized as follows, through this article five categories of current situation of medieval monuments are brought up; demolished, neglected, public preservation, religious use and privatization. At last the usage of heritage is mentioned. How to live with heritage and how to inherit next generation in the big city? I want to emphasize three points, the value, the maintenance and usage of heritage.

The urbanization causes some problems on heritage in each five categories. Urban development has two facets, formal and informal. As mentioned before, some monuments could exist because of privatization thorough informal development even if the condition is not good and some monuments were demolished totally through formal

development. In this situation, informal development had not big power to demolish it and they found the value to use it. On the other hand, formal development had big power and they could not find the value of heritage. Urbanization itself does not make heritage to be demolished. The value recognition of heritage decides the future way of it.

Through various cases of medieval monuments in Delhi, it is clear that the constant maintenance of heritage is necessary to inherit next generation. In generally speaking, it should be maintained by owners, for example ASI, religious organization or individual. When we surveyed monuments in 2015 and 2018, we could not enter some monuments because some owner might not agree to enter. We, as architectural historians were disappointed, although to whom heritage belongs? World heritage, national heritage, group's heritage or family heritage?

However, we human has to coexist in the district, country or globe. Especially focusing on architectural heritage in the big city, heritage must not have only its meaning but for its usage, as living heritage. In this context, the method of connecting heritage to the modern life should be established.

The survey of the Mission for Indian History and Archaeology at the University of Tokyo collect the information about the medieval Islamic monuments in Delhi in 1959-62 comprehensively and passed down to us, so this information itself becomes heritage. We as historian or architectural historian have to search and extract the meaning and value of heritage.

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Fig.1 The map of urban history of Delhi

Fig.2 The Mission for Indian History and Archaeology University of Tokyo

Fig.3 The Mission for Indian History and Archaeology University of Tokyo

Fig.4 The tombs discussed in *Vol.2 Delhi*

Fig.5 The water facilities discussed in *Vol.3 Delhi*

Fig.6 HP of Digital Archive: about Medieval Muslim Monuments in Delhi

Fig.7 Comparable site between 1960s and 2010s on google maps
Fig.8 Monuments were demolished by constructing new mosques
Fig.9 Monuments might be demolished by making the green park
Fig.10 Monuments might be demolished by informal urbanization
Fig.11 Demolished Monuments at Vasant Vihar
Fig.12 Neglected monuments in the broad parks under the greening of Delhi
Fig.13 Monuments deteriorating into bad conditions
Fig.14 Preserving ASI monuments in Hauz Khas Area
Fig.15 Preserving ASI monuments in Wazirpur Gumbad Park
Fig.16 ASI monuments in the huge park swayed by green jungle
Fig.17 ASI Monuments surrounded by high building
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Fig.19 Current situation of protected monuments by ASI
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Fig.21 Protected monuments by other organization, as heritage
Fig.22 Monuments protected by religious organization
Fig.23 Transformation around Baoli of Nizam al-Din Awliya
Fig.24 Transformation of the religious complex of Shaikh Salah al-Din
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Fig.28 Historical mosques used for private houses
Fig.29 Historical tombs used for private
Fig.30 Monuments at the south of Meherauli with informal temporary houses
Fig.31 Monuments as personal property
Fig.32 Heritage located at modern facility
Fig.33 Heritage used for public facility from 60's
Fig.34 Heritage used for public facility in 2015