

# Preliminary Study of Significant Historic Buildings in Begumpura Complex, Lahore

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**Abstract:** Built heritage is the contextual reference to the society from its period of construction to the present identity along with the additions through the centuries. These valuable assets display the tangible/ intangible values that demands protection for future generations. The heritage conservation is the process comprising of the identification, protection and promotion of the significant threatened built heritage that reflects the identity, culture, values etc. The presented research encompasses the preliminary study of significant historic buildings of Begumpura complex in Lahore (Pakistan) for protection from threatening agents either natural or of anthropogenic origin. The research methodology comprised of documentation through photographic and textural data in addition to the visual analysis and surveys. The documented and surveyed historic structures in the studied area were found adversely damaged by natural as well as anthropogenic agents mainly due to neglect and ignorance on our part. The adoption of the proper conservation strategy can preserve the valuable heritage and helps in maintain their essence over time.

**Keywords:** Historic, Buildings, Begumpura, Lahore, Pakistan

## I. INTRODUCTION

The built heritage is an asset as well as a reflection of values and culture developed through generations. It has architectural, aesthetic, archaeological, economic, social and even political and spiritual or symbolic values. But the first impact is always emotional and symbol of cultural identity and continuity of heritage of any nation. So the cultural heritage is the memory of its living culture and a reflection of values, and cultural developed through generations. The only way to show our concern with our built heritage is through the way we keep it and then pass it on intact to the coming generations. As we know buildings are undergoing a continuous deterioration process we must develop clear understanding about the causes of their decay and only then we can ensure their endurance against weathering forces. A very broad spectrum of factors, other than human intervention, climatic and environmental, is also to be considered while studying the heritage buildings. These could be historical, political, social, economical as well as geographical. Equally important would be the materials composition and construction techniques, period of construction and its different phases.

Begumpura complex is of special interest for the current research on four counts. Firstly because of all other gardens studied and documented in available literature were laid out for the use of royal families (the Shalamar and Fort gardens) or later converted as tomb gardens (Shahdara Complex), Begumpura complex is the only surviving site which was laid by Mughal nobles or used as tomb gardens for the elite rather than the royal family. Secondly most of the buildings in this complex belong to the late Mughal period, and represent a specific era which was not covered before properly. Thirdly the complex was developed over a period of one hundred years from 1655 AD (Gulabi Bagh) to 1745 AD (Saruwala Maqbara), and it considerably influenced the spatial growth of Lahore between the Fort/walled City and the Shalamar garden complex. (Bart, 1677) Fourthly, it is the only surviving complex in Lahore to retain a full mix of residential, mosque, tomb (mazar) and garden architecture.

Begumpura complex therefore is an important built heritage for the study of the role of Mughal elites on the architectural and political activity during the late Mughal times. Since the complex was extensively vandalized by Sikh rulers and remained neglected during the British and post-independence period, it was necessary to carry out a comprehensive study and documentation of the complex for formulation of conservation strategy and for creating awareness about this particular site amongst the architects, archaeologists, art historians and other professionals.

## II. LITERATURE REVIEW

Built heritage plays an important role in every individual's life and this association demands its protection and promotion to meet the current and future expectations of the society. The present era of globalization consciously or unconsciously creating more awareness about heritage and associated values, therefore cultural built heritage is becoming more valuable asset with different contextual phenomenon of recreation, research, economic development etc. The conservation of built heritage is the sequential process starting from the preliminary studies for identification, scientific studies in addition to social theories for their protection and finally the promotion of these valued assets. Begumpura complex, the selected heritage site developed over the long period on the royal route from Lahore to Fort to Shalamar garden. The Mughal elites started construction of residences and gardens soon after the construction of Shalamar garden. The principal garden site as evidenced from the remains is the Gulabi Bagh laid

out in 1655. The garden surrounds a tomb which is attributed to Shafun Nisa (d 1671). Towards north of Gulabi Bagh lies another tomb called “Saruwala Maqbara” (Cyprus tomb) which was also surrounded by a lofty garden and tank, now totally disappeared. Khokhar (1982) has also suggested that the tomb was originally within a garden, which measured 219 feet x 219 feet and had a baradari on the west and two big tanks and fountains on the east and north. The tomb is one of the last of the monuments of the Mughal period built in Lahore in 1745 AD.

West of this complex lies a tomb of Khawaja Mahmood, known as Hazrat Eishan, a religious leader from Bukhara. According to Latif (1892) Hazrat Eishan laid out a beautiful garden, today this tomb has a mosque and a small graveyard, but no traces of garden. During the time of Shah Jahan he lived in Lahore. The Emperor on the succession of the throne presented him with lakhs of gold takas, with which he laid out a fine garden. The mausoleum was also built by him in his life time. (Latif, 1892). Unfortunately the Mughal sites in Punjab were extensively damaged during the Sikh period. The site of Begumpura during the reign of Ranjit Singh was ravaged by Sikhs who leveled many of these buildings on the ground. The situation in the colonial era was no better, but after the partition of Indo-Pak subcontinent in 1947, the huge influx of refugees from India encroached upon whatever open space was available to them within the urban limits of Lahore and added to the deteriorating condition of this site. However, whatever remains now is an ample proof of its magnificent grandeur.

#### A. Architectural Characteristics

##### i. Gulabi Bagh Gateway

The Gulabi Bagh also named as rose garden by many historians has disappeared and only the welcoming gateway still exists exhibiting the glorious past of the selected heritage site. The historical records documented that the garden was built by Persian noble Mirza Sultan Beg in 1655. The historical descriptions further suggested that initially the garden was developed on the chahar bagh concept along with the wells for water supplies to the surrounded fountains. The only surviving welcoming gateway excels in its decoration of mosaic tiles and calligraphic work that is rapidly deteriorating with the passage of time. The mosaic decorative colourful patterns woven rhythmically in the exterior and the richly decorated interior with flowing harmonious frescoes and the articulated calligraphic inscriptions made this monument as an example of unique architectural expression.

##### ii. Dai Anga Tomb

Dai Anga tomb is situated in the north of Gulabi bagh gateway, which was built in 1671 for the wet nurse of Shah Jahan and his daughter. The documented historical records describe this tomb as square in plan constructed with the burnt bricks. The tomb was constructed on a less projected podium built over a subterranean room. The tomb comprised of a central main chamber surrounded by eight richly decorated rooms. The roof bears a low pitched dome on a high neck and a square kiosk in each corner supported on slender brick pillars. The main dome as well as the domes on the pavilions was covered in a white and dark blue zig zag mosaic pattern which has now almost entirely disappeared. The walls are richly decorated with beautiful blue and yellow glazed tile work on the exterior and the most beautiful floral wall painting inside. On the inside are inscriptions of passage from Qur’an. The building has basement rooms as well with the actual grave, but the passage to them is closed. The basement therefore could not be documented.

##### iii. Sarunwala Maqbara:

Lying towards the north of the Gulabi Bagh Gateway and the tomb of Dai Anga but slightly displaced from the axis of the two buildings is a solid tower-like tapering brick structure which is the tomb of Sharfun Nisa Begum, sister of Nawab Zikaria Khan, who held the title Khan Bahadur Khan. This tomb is generally known as “Sarunwala Maqbara” (Cyprus Tomb) the name taken from its ornamentation of Cyprus trees on its wall, four on each side intercepted by smaller blooming flowering plants all in enameled tile mosaic work on plaster base.

The tomb is peculiarly situated on an elevated square about a storey in height. The tomb is one of the last monuments of the Mughal period built in Lahore in 1745 AD. It is different from most other tombs because the burial chamber is on the top (instead of being in basement) at a height of about 15 feet approached by a removable ladder. Latif and Khokar have both stated that the tomb was surrounded by a beautiful Mughal style garden with a baradari and two big tanks with fountains. Unfortunately the traces of garden have all disappeared due to the residential area which has been developed all around the mausoleum.

##### iv. Tomb of Ali Mardan Khan

Towards the south of Gulabi Bagh Gateway and lying on the same axis of the Gulabi Bagh Gateway and Tomb of Dai Anga is another imposing monumental tomb called the tomb of Ali Mardan Khan in the center of the once beautifully laid garden. The garden has now totally disappeared except a gateway. The mausoleum and the gateway could not be documented because of being surrounded by Railway workshops and no provision of access.

##### v. The Mosque and Tomb of Hazrat Eishan

The tomb of Khawaja Mahmood known as Hazrat Eishan is situated towards the west of Gulabi Bagh gateway. It comprised of a tomb, a mosque and a small graveyard without any traces of originally constructed garden. The tomb plan is octagonal with a high dome above it. The Begumpura complex monuments were extensively damaged by Sikh rulers and remained neglected

during the British period because of being not Royal status. Later, the huge influx of immigrants at the time of partition of Indian subcontinent further deteriorated the monuments. The refugees from India encroached all available open spaces within the urban limits of Lahore to save their life and settling down in the close proximity. Hussain (1996) disclosed that this garden complex due to its location on the main G.T. Road and very close to the international border with India was the most convenient location for immigrants to settle, as plenty of open spaces were available in the Begumpura complex area. The sudden increase in population at that time had a tremendous impact on the fabric of the monuments. Later the demographic pressures and industrialization led to acute traffic conditions, pollution and noise and this historic core worthy of preservation remained neglected both at national and international level.

### III. RESEARCH METHODOLOGY

The research methodology worked out for this neglected and encroached heritage site after studying the literature comprised of documentation through photographic and textural data in addition to the visual analysis and surveys for preliminary analytical study. The sequential process started the photographic survey and visual analysis which was carried out with the help of the archaeological officials and experts. Secondly the site area was thoroughly marked with the help of textural available data for the identification of the significant historic buildings. Finally, the encroachments were also marked to study the historic fabric in detail for the formulation of the comprehensive conservation strategy.

### IV. RESULTS AND DISCUSSION

Begumpura complex at present was found at a stage where its deterioration process is going on unchecked and at a very rapid pace. Begumpura complex deterioration was found to be mainly the result of neglect and ignorance. Neglect is one of the primary factors of deterioration of heritage buildings in Pakistan. This complex was not built by emperors as already mentioned remained unable to get attention by the government, people and conservators. After independence due to urban growth of Lahore this site of Begumpura complex (Prime Location) was occupied by people very quickly. The beautiful gardens surrounding the monuments of this complex were converted to small industries. And organic growth of area acquired all open spaces and developed into markets. And this pattern of growth covered all the areas of complex leaving only the buildings standing isolated in between the crowded markets and mainly workshops. Many superficial treatments are being carried out in the name of so-called restoration work without having a long term vision and in-depth knowledge of the subject. These cosmetic treatments are just the wastage of money and time. At the same time poor conservation techniques are adversely damaging the existing structure and its skin. The new materials like cement, dye chemicals and binding agents are accelerating the decay process as they come in contact with the original materials. The three main sections of interacting factors (Figure, 1) show their relationship and formation of the decay forms.

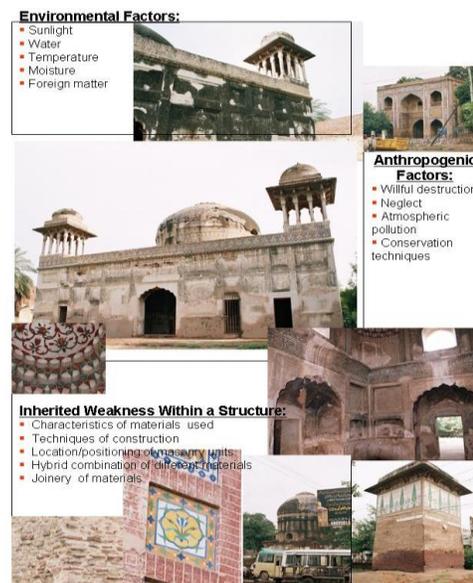


Fig. 1: Three interrelated variables contributing the deterioration of heritage.

### A. Natural Agents

The geographical location of the building is the major factor contributing the surrounding environmental effects on the building. This mostly concern with climatic condition to which building is subjected all the time, such as solar radiation, temperature, humidity & rain, wind speed, floods, earthquakes etc. The combined action of all these factors is too complex and cannot be studied in isolation. The study suggested that deterioration and decay of Begumpura Complex is a combination of various factors. For this a detailed pictorial survey was done. The detailed overview of all deteriorating factors are described and discussed in the following section:



Fig. 2: Natural and Anthropogenic factors contribution in the deterioration of Begumpura Complex, Lahore

### B. Thermal Movement

Thermal movements create stress in building material and components, which result in cracks in the material and structure. Different materials and even the same material of different colors have different thermal expansion, which develops cracks between the joints of masonry. Thermal movement is basically caused by differential heating of different parts of the masonry. Lahore falls within the zone of extreme climatic conditions. During summer the temperature rises up to 48°C and during winter it falls down to 0°C. The exposed parts of building expand more due to solar radiation, whereas internal and shaded parts of building materials stay relatively cool .

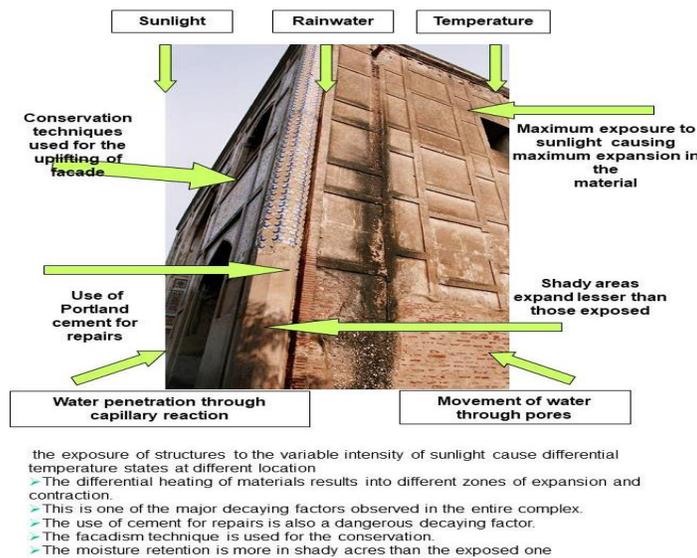


Fig. 3: Thermal movement due to differential heating of historic façade in the Begumpura Complex, Lahore

### C. Rain & Moisture

In Lahore city, the average rainfall is 20 inches annually. Rain damages the masonry above the ground and penetration of rainwater through capillary action causes decay of structure internally. The rainwater picks up soluble materials along its path and destructive crystallization process occurs when water evaporates. Rainwater is the most dangerous of decaying agents as we can see in various parts of the heritage buildings in complex that are exposed to severe rains are in deteriorated conditions. Salt crystallizations results process occurs when water evaporates. Salt crystallization results in powdering of surface, cracking in material and sometimes even complete disintegration of masonry. Contour scaling also occurs due to repeated wetting and drying cycles of masonry.

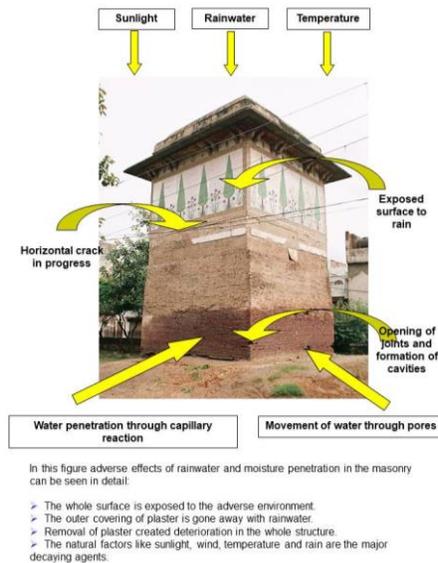


Fig. 4: Rainwater and moisture attacks on historic façade in the Begumpura Complex, Lahore

### D. Natural Disaster

Natural disasters such as earthquakes, volcanic eruptions, hurricanes and tidal waves are the unavoidable pressures produced by natural phenomena. Natural disaster catastrophic effects on cultural heritage cannot be eliminated. We can only predict their occurrence, though most often we cannot tell when they will occur, and for that remedial actions can be taken to minimize the overall damaging effect. All over the world scientists are trying to predict the causes, time of occurrence and generation mechanism of these natural disasters. But they are unable to say anything with authenticity. Mostly these phenomena are related to climatic changes that badly affect the materials resulting into various deterioration processes. Natural Disasters directly or indirectly cause considerable cultural losses which can be prevented to some extent by regular maintenance of these heritage buildings.

### E. Causes Related of Techniques and Material Used Originally

The absence of technological advancement at the time of construction in our part of the world is also one of the contributing factors in the deterioration of the selected heritage site. During the visual survey, it was also observed that the use of iron for the reinforcement of masonry units in the past was not properly executed that is one of the cause of disruption of masonry units.

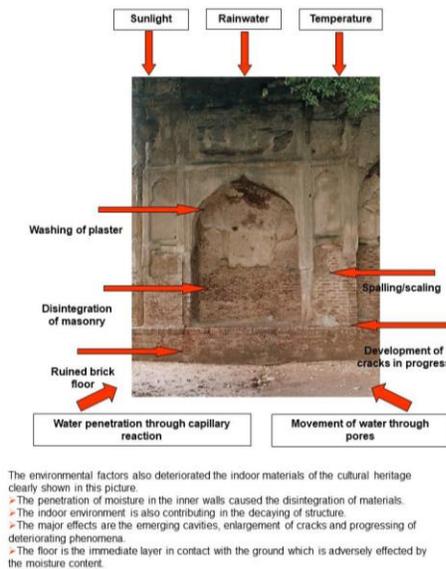


Fig. 5: The original materials inherited weaknesses impacts on Begumpura Complex, Lahore

### i. Anthropogenic Agents

Man-made causes of decay are complicated and have wide spread implications. Anthropogenic agents are basically the by-product of industrial activity, urbanization and population pressures. Neglect is perhaps the most insidious threat and anthropogenic act, whether by deliberate intent, lack of awareness or concern, or lack of necessary resources. Neglect is the failure to undertake necessary work on cultural buildings and objects. It can also be a failure to develop appropriate legislation, to observe incompatibilities between different statutory measures or policies, or the failure to undertake necessary research into preventive and remedial measures. And we must give equal attention to this serious cause of decay, classified as anthropogenic agents. These man made causes and vast range of factors like wars, alterations, changes in the ground water levels, atmospheric pollution, theft, vandalism, tourism and neglect can be studied under this topic.

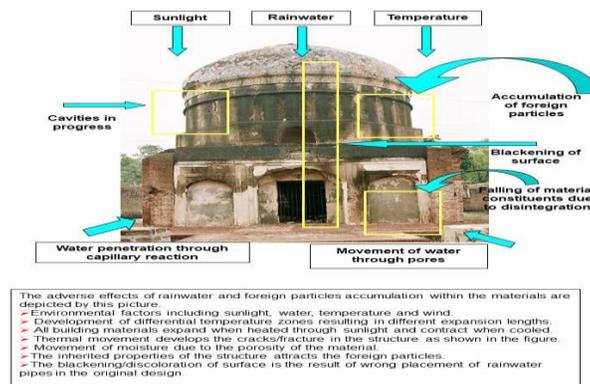


Fig. 6: The original materials inherited weaknesses impacts on Begumpura Complex, Lahore

### ii. Willful Destruction

The monument has suffered a lot at the cruel hands of Sikh rulers, who stripped off most of ornamentation and marble decorations in the complex. During British period it was altogether neglected, which further contributed to its decay. Marble and kashikari tiles work typical of Lahore once covered the mausoleum; they have since been stripped off. Dai Anga's tomb once covered with marble pieces and wrought with flowers of mosaic, stripped off since then and now left plain building. The adjoining structures of main building were used as the manufacturing depot of the railway department, but have been now abandoned as such.

### iii. Neglect

Neglect of the heritage buildings initiate all the deterioration process like encroachments, pollution of surrounding environment, and damage to the building by natural agents as well as anthropogenic agents. Application of inadequate conservation techniques is also included in this. Neglect and ignorance are the major causes of destruction by man.

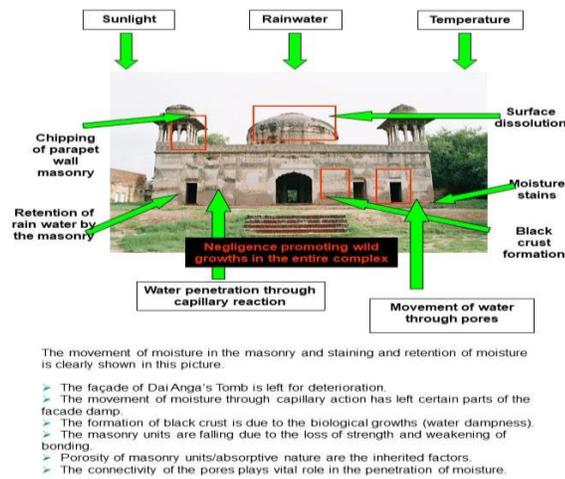


Fig. 7: Neglect (silent eater) impacts on Begumpura Complex, Lahore

There is no existence of boundary wall in Begumpura complex left because all the garden space around the main buildings is occupied by people living in the vicinity. The widening of roads by the government departments has eaten all the buffer space between the road and the heritage buildings. Now the beautiful buildings are just standing isolated on sides of roads. There is a huge waste collection container placed by municipal department in front of grandeur Gulabi Bagh Gateway. The row of houses on both sides of the monument are expanding inwards and acquiring the heritage site.

- *Gulabi Bagh Gateway*

The Gulabi Bagh Gateway presently serving as the main entrance to the complex is in severe deteriorated condition. The front side is a little bit in better condition but the rear side is almost peeled off. The other gates disappeared with the passage of time due to lack of maintenance.

- *Dai Anga's Tomb*

The rooms surrounding the central chamber were found to be at first stage of decay. Its masonry has disintegrated and almost all the ornamental surfaces were chipped off. The front adjacent pavilion has virtually collapsed. The plantation in the tomb is left on its fate. The Mughal tomb gardens are known for their plantation taste and chaharbagh concept. The Archaeology Department has no plan in future to restore these heritage buildings.

- *Tomb of Ali Mardan Khan*

Neglect in case of Ali Mardan Khan tomb resulted in possession by railway workshops. That tomb is surrounded by workshops of railway and surrounded by atmospheric pollution deteriorating the monument. There is no single access to this tomb and nobody is allowed to visit the tomb.

- *Tomb of Hazrat Eihsan*

Tomb of Hazrat Eihsan once beautifully laid in garden has totally lost its grandeur. As the part of the complex once it was a beautifully planned tomb on the chaharbagh pattern, which spread up to the Ali Marden Khan's tomb lying on its other side. After the despoliation of the tomb, it was further destroyed and stripped of its beauty by the local people settled around the tomb.

- *Air Pollution*

Air is polluted primarily by automobile exhaust emission and industrial waste products. Begumpura complex is located close to the large industrial area of lahore and Grand Trunk road. The surface decoration of these heritage buildings has become roughened and pitted due to the pollutants of air. Pollution has greatly affected the lime plaster especially the decorative plaster works, which are calcareous in nature. Lime mortar and lime plaster which is affected by pollution, changed from calcium carbonate into calcium sulphate, which is water-soluble. The structure has become weak as the lime mortar is leached away due to acidic rain.

- *Vibrations*

The widening of main roads resulted in direct contact of buildings with the vehicles. And the transmission of vibrations to these buildings has increased due to small distance. The location of this heritage site on main G.T.Road is also one of the main

reasons. Both factors provide vibrations to subsoil, which have contributed in structural cracks in the buildings of the Begumpura complex.

- *Wear & Tear By Visitors*

The area of whole Begumpura complex is now in pieces. There is no existence of its boundaries and all buildings of the complex are standing isolated in the fully crowded and heavily polluted surroundings. The lack of interest in this particular heritage site created many serious problems regarding visitors. Due to inadequate number of guards in the main building, un-authorized visitors damage the monuments by writing on walls climbing with different elements of building, playing cricket etc.

- *Poor Conservation Techniques*

The restoration works carried out in the studied heritage site are not executed professionally that lacks the basic technical knowledge, that resulted into failure as observed. The selection of inappropriate materials not similar in nature with the original materials resulting into further damage to the historic fabric. The sequence and the process for the conservation works is not developed in our part of the world that can be seen in the restored areas. Recently the repair work was done on this monument which has further enhanced the deterioration of this heritage site. The monument is under extensive attack of poor conservation techniques as shown in figure.

- *Biodegradation of Cultural Heritage*

Bio-deterioration is usually linked to environmental conditions, for example, moisture, temperature and light. Biological Growths are generally more active and rapid in the warm and humid zones. Air pollution has influenced to some extent the colonization and growth pattern of microorganisms in polluted urban environment. The pictures taken are in the month of July and August when the humidity levels are at peak accompanied with temperature content favorable for the biological growths.

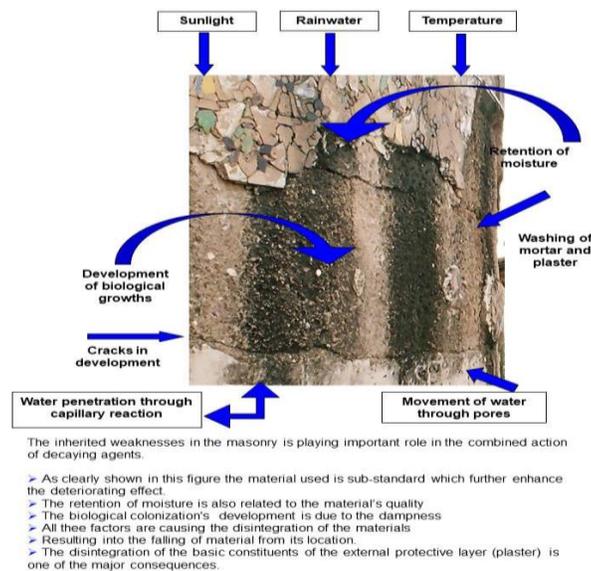


Fig. 8: Neglect (silent eater) impacts on Begumpura Complex, Lahore

## V CONCLUSION

Begumpura Complex at present is at a stage where its deterioration process is going on at a rapid pace. Many superficial treatments are being carried out in the name of so-called restoration work without having a long term vision and in-depth knowledge of the subject. These cosmetic treatments are just the wastage money and time. At the same time poor conservation techniques are adversely damaging the existing structure and its skin. The new materials like cement, dye chemicals and binding agents are accelerating the decay process as they come in contact with the original materials. Time has come where this issue needs to be dealt with in a large perspective rather focusing on individual problems in isolation. At first stage a comprehensive conservation plan should be prepared. Such plan should include research on properties of materials used and behavior of new/replacement materials. It should also include development of proper conservation techniques for the prolonged life of the monuments. Study should also expand to surrounding environment and factors affecting the structures. These may include direction of flow of storm/rain water in the area and other activities going on around them. Structure of the monuments is the most important entity at which all efforts should be focused. Only a strong and stable structure can ensure prolonged life of the ornamentalations and beautiful surface treatments. For that matter adequate measures are needed to be taken to protect the structure against damaging affects of water and moisture. Penetration of water in structures triggers the process of decay. The advancement of technology is now capable of providing many engineering solutions to this inherent problem. The Mughals had

very intelligently placed their buildings on isolated elevated grounds to protect them from floods and other factors of human interventions. But with the passage of time these sites were surrounded by intense human activity and decaying forces came in action. Encroachments and construction of elevated roads around them created severe problems of surface/rain water disposal. There is a need to develop proper surface water drainage system in such areas. Providing damp proof course below the natural ground can also control water penetration through foundations. Another solution is to isolate the structure by providing concrete retaining walls around foundations.

In heavily water logged areas, PVC perforated pipes can be laid around them which is a very common solution for such problems. Another source of water penetration is from roof tops which have deteriorated. Providing proper roof insulation should be the top priority. Regular maintenance at short intervals is equally important to slow down the decay process. Only after making structure stable against natural agents of decay, surface restoration work should be taken in hand. There is a need to bring awareness among public about the importance of our cultural heritage so that damage by human element be brought to the minimum. Although much damage has been caused due to many factors discussed earlier, and mostly due to our ignorance, it is still not too late. Adopting a carefully planned scheme while employing latest technology can preserve our valuable heritage. Buildings preserved on solid technical grounds will then be able to maintain their essence over time.

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