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SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY.

Report on
MAINTENANCE PROGRAM-MAINTENANCE PLAN
&
DOCUMENTATION OF HISTORIC BUILDING
Case Study
NAWANKOT MONUMENT
LAHORE, PAKISTAN



Submitted to

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ABSTRACT

This report is an outcome of the 'SIDA' (Swedish International Development co-operation agency) International training program course held in the last September 2009 in Lund, Sweden.

It is based on the detailed study, i.e., Maintenance program, Maintenance plan and documentation of the Nawan Kot monument in Lahore, Pakistan carried out during Sept 2009 to Feb 2010.

The purpose of this research is to bring to light the existing condition of the Nawankot Monument and to identify the factors that have led, and are still leading to its deterioration, both structurally and conceptually. The Nawankot Monument is one of the many rapidly deteriorating monuments in Lahore. The aim of this research is not only to point out the casual factors but also to suggest steps that must be taken to save the rich cultural heritage of the past. Hence the work has been taken in particular context of the Nawankot Monument, viewed on a large scale. The Nawankot Monument is one of the pieces of the grand collection of Mughal architecture. The maintenance programme & maintenance plan suggested for this particular monument can be extended to implement on other deteriorating monuments.

The goal is to prepare a maintenance plan for sustaining the efforts of conservation and preservation of buildings of historic and architectural character in Lahore.

Acknowledgement

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Introduction

During the golden period of the Mughal Empire, the city of Lahore was at various times used as the main residence of the royal court. It still contains a large number of variety of Mughal architecture – or their remains. Some of the buildings in and around the city were built during the reign of Shah Jahan and Aurangzeb. The city was accessible through 13 gateways. A number of individual palaces, tombs and gardens formed the surrounding landscape of the city. The gardens of the Mughal dynasty are one of the world’s great landscape traditions.

A high degree of Persian influence is found in its architectural decoration especially highly colored glazed tile works known as KASHIKARI. It is a form of mosaic work.

A large variety of the Mughal buildings exist today in various localities of the historic city of Lahore. Many of these buildings are rapidly deteriorating and failing apart due to various reasons, such as lack of maintenance program me and plan and improper protection through a less appropriate maintenance and inadequate legislation. This situation, if continues, will end up with total disappearance of these important structures of our glorious history. Many of the rapidly deteriorating buildings or their remaining parts can still be saved if an immediate attention is given to them. The rapidly deteriorating buildings mainly include the garden tombs and gardens, such as the tomb of Nawab Bahadur Khan, the tomb of Dai Anga, the Gulabi Bagh and the Nawankot Monument. The Nawankot Monument is selected for the maintenance programme & maintenance plan to suggest appropriate measures for the conservation.



LAHORE

PAKISTAN MAP

Information About The Building

Nawankot Monument is in fact the entrance gateway and two isolated turrets, of the tomb garden of Zeb-un-Nisa.

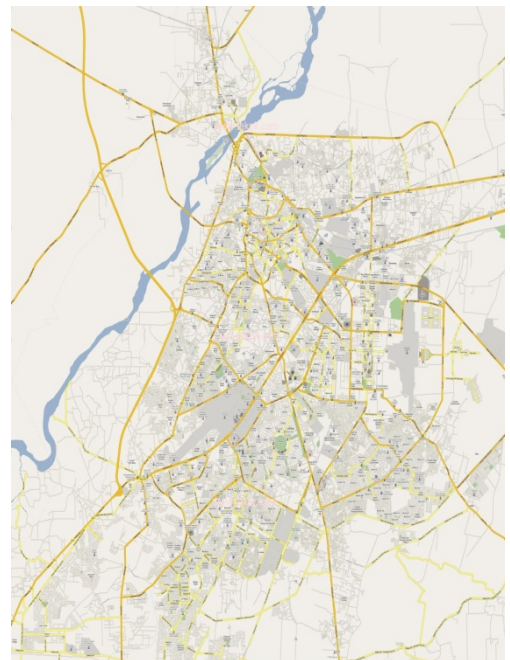
Nawankot Monument is situated almost at the spot where Nawankot locality is now situated at Multan Road, Lahore. Zeb-un-Nisa was one of the daughters of Emperor Aurang Zeb. She died in 1080 A.H. (1669 A.D).

*The tomb garden of Zeb-un-Nisa was furnished with splendid PISHTAQ (Gate way) building and Summer houses. The date of construction is 1056 A.H (1646 A.D). She also constructed here own mausoleum in which she was buried after her death. It was one of the most beautiful edifices of Lahore, decorated with costly stones and furnished with pavilions, fountains, and reservoirs. But Ranjit Singh deprived the building of all its valuable material, to construct his summer house (Marble Baradari) at Hazuri Bagh, in front of the Badshahi Mosque. It is said that the material was used in his own Mausoleum, and no decoration of this once picturesque building remains, but the skeleton. No traces of the garden and the building attached to it exist except an old gate way (PISHTAQ) and two disconnected turrets. (1. Lateef 1892)

**This three centered double arched gateway was constructed in brick cut work. It is almost entirely covered with KASHI KARI (Enameled Mosaic tile work) in blue green, orange and yellow. The interior is richly decorated with fresco paintings in red and green. The form of this gateway follows the standard design prevalent at the time, but the parapet is decorated with stylized merinos and CHATRIS (umbrella shaped structures) on all four corners of the main gate Building.

The remaining two turrets are originally of single height. They are octagonal in plan each having a beautiful terra cotta moulding on its projected bands at a height of 10 feet. After this height a pedestal of 12 inches with small square and rectangular panels give a base to the airy kiosks or Chattris. This Chatri has eight multifoiled decorated arches framed in rectangular depressed panels. It is surmounted by a small ribbed golden dome or cupola. (2. Mumtaz 1985)

Brick based moulding has been deformed and discoloured due to the depression of the site. The level



MAP OF LAHORE

difference around this building is approximately 3 ft to 6 ft with reference to its

surroundings. Rain water and over flow of the sewerage is the root cause of the dampness and damage to the building. During rainy season puddle gets accumulated around the building which does not allow visitors to enter into the building. Heaps of garbage, debris and wreckage spread everywhere in normal days which produce a stinking odour.

Most of the bricks of the base moulding have been damaged. Mortar from the joint has racked out deeply, white stain of dampness and eroded bricks seen at various places over the raised and depressed panel, is all due to rising dampness through capillary action.

Vases (guldan) at every corner have been deformed and their square bases are completely disintegrated. At some places even the foundation of vase is very miserable.

The plinth top is in red sandstone carved in leaf pattern, which in local vocabulary is called “Dassa”. Its pattern and edges has been crossed lips as butchers do sharpen their knife before cutting the meat.

MUSAFFA (brick masonry) over upon “Dassa” has also deteriorated. Most of the mortar has converted into loose dirt and accumulated within the brick courses.

Two niches (blind arches) on the east elevation have lost their decoration of kashikari and only impression of motifs and coarse lime plaster is seen over the brick masonry. The spandrels at niches have been repaired with modern material of cement. However the new work has also started decaying and cracks have occurred over the plaster. Even the plaster has got black algae spots.

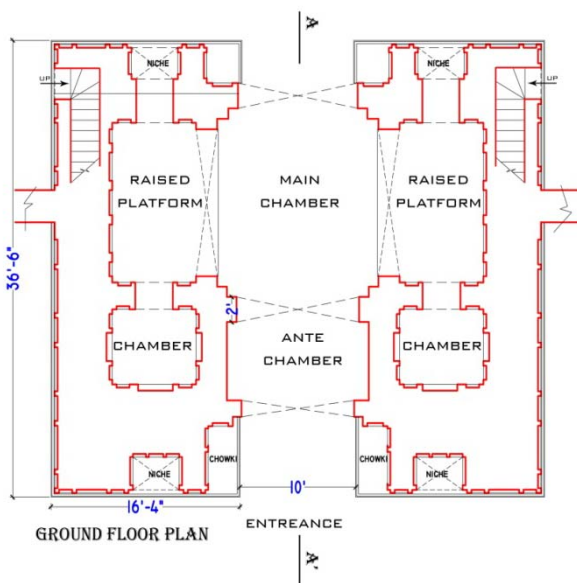


Location of the Nawan Kot Monument

Data of the Premises

Gate Way

The existing gateway was the main entrance to the tomb-garden of Zeb-un-Nisa. Its traces and dilapidated condition shows that the tomb had a wall all around with the entrance having turrets at its four corners. The plan of the gateway is almost square, its dimension towards north and south is 42'-9" where as towards East and West it is 36'-0". This eastern gateway is the most imposing structure having a four centered double arched portal. It is richly decorated with kashikari (enameled Mosaic tile work) and brick cut works. It reflects the peculiar style of Mughal architecture. It has two functions, firstly, it was the approach to the royal tomb of the princesses and secondly it was used for formal pleasure activities performed within a planned landscaped periphery of the garden. The objective of such space was to keep the mind and soul fresh and healthy.



Ground Floor Plan

Ground floor area = 820 sqft

Before entering the gate there are two projected sitting spaces toward north and south constructed in special small sized burnt brick. Red stone was placed over these sitting spaces whose border is carved and engraved in the form of leaves. The plinth all around the building is divided into small and big regular rectangular panels. Whose raised and depressed borders give a fantastic look of light and shade. It is clear from its Base plane, Ground Floor plan, that off-sets exist all around the building. All corners of the building are chamfered in the form of a vase (guldan) which creates an admirable decoration in the turning plane from one surface to another. As one crosses the lobby one enters in a space of double height called 'Deorhi or main chamber' having resting space towards north and south of 7'-3" x 12'-0" in its dimensions. These raised

platforms 42" high gives entrance to small rooms or cells called chambers towards east. The chambers are totally dark and have no light source except the entrance. The western tall arch opposite to the entrance is the replica of its eastern elevation and leads to the main tomb. There are two staircases whose access is from outside the building but within the garden. The northern staircase has been closed by the block-masonry where as the southern entrance of staircase has been closed by a steel-bar gate in order to stop the people from going to the upper portions. The risers are more than 12" where as the treads are small to discourage the people from going upstairs.

First Floor Plan

First floor area = 510 sqft

First landing opens at the first floor at a height of 14'-0" from the ground level. Due to the double height of the main 'Deorhi' this first floor acts as an inter-floor from where one can see downwards through the void in the Mughal traditional language these spaces are called Shah-Nasheen (place for the King to sit.) The arrangement of the lower elevation is repeated on the upper storey. These small spaces are called "KHANAS". In other words these Khanas are two openings which act as the light sources from the east as well as from the west. And also it can be used to view outside.

Ante-Chamber

A rectangular vestibule measuring 12' x 6' with a large red sand stone opening having huge gate traces is the ante chamber. Its two walls, northern and southern, were decorated with fresco paintings which have been peeled off and the brick masonry is quite visible due to signs of rising dampness at the base of the walls. The height of the ante chamber is 17' having a curved ceiling decorated with fresco work now covered with black algae and a smelly layer. Towards the gate two holes about 6" diameter exist in the ceiling at a distance of 4" from the main ceiling downwardly at the corners of the ante chamber. And similarly remains of two marble red sand stones are also found at the ground level for the pivot gate. The opening of the gate was inwardly within the ante chamber.

Main Chamber (Deorhi)

After crossing ante chamber, one enters in the main chamber. It is a square space measuring 13'-4" x 13' - 4". Inside the main chamber there are two platforms, 42" high, covering the area of either side of the main entrance with two chambers facing east with access from the west through the platforms. The inner wall of the platform was decorated with recessed niches, while the curved ceiling had on art work of Ghalibkari and fresco decoration all over. But unfortunately the work has fragmented and is not firmly bedded. In addition the smoky layer has been over laid.

The roof of the main chamber rests over the pendentives at the four corners of the square chamber while the soffit of the dome shaped ceiling has remains of low stalactite, honey comb decoration. But unfortunately the ceiling has completely lost its decoration, even plaster base and the brick with coarse aggregate is so clear that the brick courses can be counted easily.

Penetration of rain water is the main reason for the collapse of ceiling plaster and the black algae growth marks are the evidence of leaking water. The total height of the dome shaped ceiling from the center is 25'-0" to the ground level. Due to water leakage the fresco decoration of intrados and extrados of all the arches have vanished. Their apex has been so badly affected that the bedding of the bricks are weakened and is cracking away.

Guard's Chamber

It is a small room of 8' x 6'. It is completely dark and gloomy due to smoky layer, blackened by the fire fumes and without source of light, except its entrance which is 6'-0" high and 3'-0" wide. The conglomerate floor in dilapidated condition is full of debris emitting bad and unpleasant odour. Dado plaster all around the Hujra walls has been peeled off whose few remains indicate the presence of reddish tone of fresco painting of some patches. Over it each wall is divided into panels called "CHINI KHANAS" decorated with fresco painting, of vases, bottles and fruits in trays in the niches of the wall, squares (Murubba) and rectangles (Tilly) which are framed by a boarder of 8" broad band hang around the corner.

Ceiling is decorated with moulded work "Ghalib Kari" at the cavettos of the curved ceiling. Most of this decoration moulding has been damaged its repairs and removal of smoke can uncover

variety of geometric and floral design patterns spread over the curved surface.

Raised Platform

(KHALWATGAH) is exactly over the main entrance and hidden behind the entrance with the double arch. It is set at a level of 3'-6" from the first floor. It has only one small source of light from the west and through its access, and both Khanas from the first floor. The access to this Khalwatgah is from the staircases, as the plan is symmetrical.

Roof Plan

Chattris over the roof plan are main features which emphasize the gate and create a distinct sky line. These chattris are four in number each having the same characteristics. Each one is square in plan with a massive pedestal having a small open pavilion called Baradari (summer house). Its shades and cornices are decorated with ornamental moulding, kashikari and engraved geometrical patterns, and floral too – green, blue, and yellow colours are commonly used. Repetition of this design provides a continuous harmony, which develops an interest in the vision of a common man. The cupola of the Chattri was originally decorated with golden glazed fluted ribs which is a unique artwork found only in this monument in Lahore. Most of such art work has vanished from

the Chattris, with the delicate work of kashikari covered with black Algae.

- The floor at plinth level is decorated with terra cotta tile work.

- Arches of baradari are in multi-foil design which are normally depressed in comparison to the top border.

- Flowers – roses, lotus and tilly have always been a weak point of the Mughal poets and architects, so in Mughal architecture the floral patterns were most commonly used in the design.

- The following features are important

- a) Umbrellas (Chattries)
- b) Parapet,
- c) Platforms (Chabutras)

Umbrellas (Chattris)

The Nawankot Monument (gateway) is surmounted by four decorative Chattris one at each corner of the building. The salient features of these Chattris are.

- i. **Plinth:** In which parapet wall is penetrated from two sides.
- ii. **Column:** Pyramidical base having square shaft.
- iii. **Multifoil arches:** Two based columns over plinth form one arch, framed with steps over the spandrel.
- iv. **Chajja:** projection made of brick.
Base: Plinth of cupola (square in form).
- v. **Drum:** Vertical support of cupola (circular in form).
- vi. **Cupola dome:** a small dome.
- vii. **Rose:** Over cupola with pinnacle.

Internally, the ceiling is hemispherical in form with squinch arches. Its brick work is totally exposed and plaster has been peeled off due to penetration of rain water from all directions.

Elevations

Salient Features

The main entrance of the tomb garden of Zeb-un-Nisa comprises a building which is complete in all respects. It has four elevations.

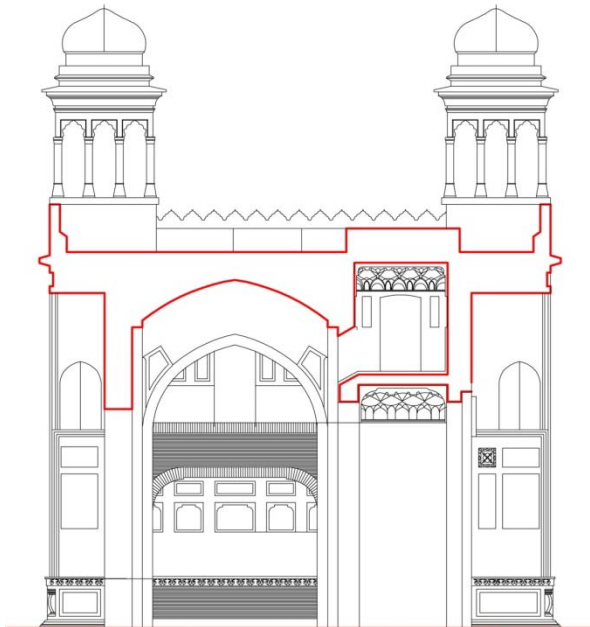
- East elevation consists of the main gate to enter in this building which used to lead to the garden the tomb.
- The walls originate in the north and south elevations of the main gate building which join the turrets (burj) in their respective directions and two staircases respectively.
- West elevation consists of the entrance into the tomb garden.

East Elevation (Gate Way)

This impressive gateway is the climax of the Mughal Alamgeeri Architecture, having a double arched face in the center of the building. This outer high arch is like a half dome, which is embellished externally with low stalactites. Rich colour (like yellow, blue, green, orange, brown and indigo) and floral patterns of kashikari present a unique sense of blending the colours with decoration technique.

The Dado up to the plinth level has the brick base-moulding, raised and depressed panels, cut and dressed brick's Guldans, seem to be repaired lately. DASSA is in its original state of red sand stone which has been delicately carved in leaf design. MUSAFFA (brick masonry) starts over Dassa upto a height of 3'-6" having rectangular panels of Kashikari and semi-stalactites above the musaffa. This arrangement of ground floor level is repeated at first floor level in the elevation augmented with two arched openings with red sand stone perforated Jali which no more exists.

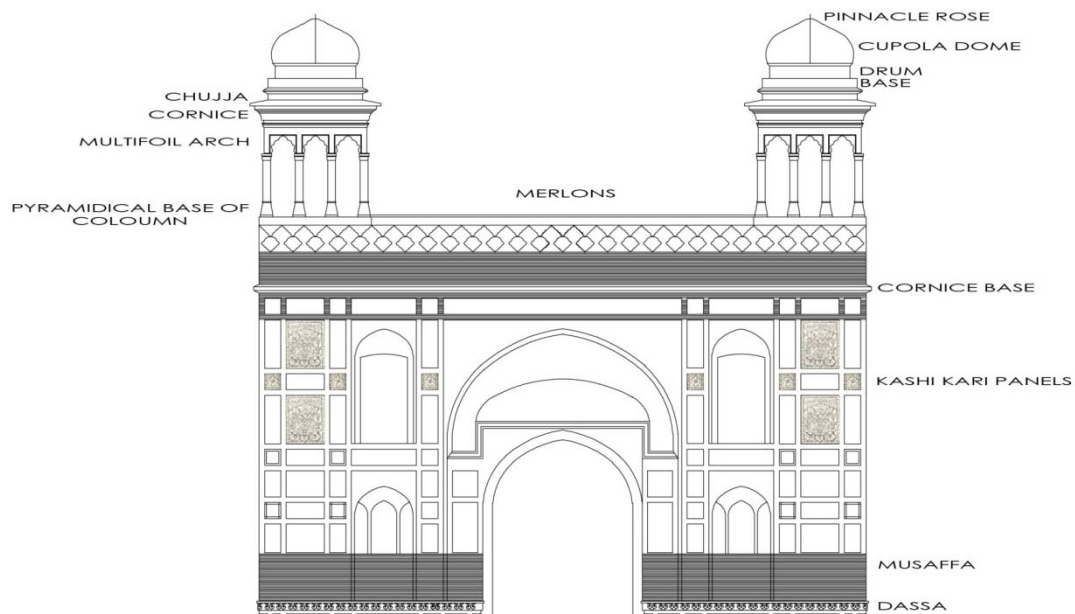
The original kashikari work has terribly deteriorated and peeled off and underneath three layers of base, coarse lime mortar, fine lime mortar and glazed plaster layer are visible. Most of the plaster bands are 5" inches wide, square (Murabba) and rectangular (Tilly) panels of various sizes. The decoration work over the panels has suffered severely from weather condition, making the glazed surface of the kasha work dull, the colours faded and shine disappeared from the original surface.



SECTION AA'

red sandstone, which is the only element in its original state.

A project sloped solid band at the top separate the parapet wall from the rest of the building and decoration. By introducing a new element of design called MERLONS (Mudakhil) raised and depressed multifoil form creates a rich and a unique skyline in the existing environment of encroachment.



Legal Protection

The Department of Archaeology and Museums was the only custodian of built heritage in Pakistan and functioned under the Jurisdiction of the National Government's Antiquities Act of 1975. But in 1985, the Provincial Government of Punjab Introduced the Punjab special premises (preservation) ordinance, 1985.

“The ordinance follows the general pattern of the Antiquities Act, 1975. Thus, if any building is declared as special premises under the ordinance, it would be treated in the same manner as an antiquity under the antiquities Act, 1975”. (3. Journal 1994)

However, the ordinance is not yet fully functional. In 1990, the Provincial Chief Minister appointed Mr. Wali Ullah Khan, a renowned scholar as the adviser on issues of archaeology and monuments, particularly to implement the ordinance. But a rift between the Federal and Provincial Government arose. The Provincial Government wanted complete charge of some of the World famous listed monuments in Lahore, such as the Lahore Fort, the Shalimar Gardens, the Mughal site of Hiran Minar at Sheikhpura, and the archaeological sites of Harappa and Taxila. The Federal Government did not agree to that. Thus the provincial Government did not start any conservation work. Mr. Wali Ullah Khan died in 1992 and since then, no adviser has been appointed. Thus, the conservation of built heritage mainly remains with the Federal Government through the Department of Archaeology and Museums.

User

As it has already been discussed, the Nawankot monument consists of a double storey, main entrance and two isolated turrets towards north and south. Distance among the features of the building is the main reason of the encroachment and illegal occupancy.

Due to neglect and irresponsibility of the Department of Archaeology and local government (municipalities) heaps of garbage and debris are found within and around the building. There is no drainage system for rain water which creates puddles, resulting in stinking water all around.

Presently, the main entrance has been completely encroached and controlled by drug addicts in the evening and in the morning it becomes a play-land for children.

History of the Building

*Al-Quran is the Holy Book of the Muslims. The Quran gives the concept of paradise as a garden. Human beings strive to do good deeds in order to be in the paradise-gardens in the life hereafter. Man has also tried to make replicas of paradise in the form of gardens. (4. Galani 1969) Garden does not mean the place to spend the leisure time. It is a place to appreciate nature, trees, flowers and birds of various species which add colour to one's life in this world as well as in the life hereafter.

Mughals gave the idea of various types of formal and informal gardens like, Palace-garden, tomb-garden and public-garden.

In this chapter there will be discussion on the tomb-gardens or mausoleum-gardens which were associated to saints, kings, queens, princes, princesses, governors and courtiers.

**Late Munshi Mohammad Din Fauq traced out references to at least five gardens in the city of Lahore alone, all belonging to the category of mausoleum-gardens and all now vanished. (5. Dar 1969)

As it is known that the Mughals were very much fond of Architecture during their life-times and even some of them constructed their tombs during their life-time or sometimes their close relatives like parents or offspring's used to construct their mausoleums in order to make them immortal, for example the tomb of Zeb-un-Nisa, Sharf-un-Nisa called Saruwala(maqbara) and Jehangir's tomb. These mausoleums or tombs were mostly planned in a huge open space in the suburbs of a city or along a major highway.

Zeb-un-Nisa's tomb is one such example, which was constructed by herself during her lifetime. She is buried in the existing so-called Zeb-un-Nisa tomb. There is an old controversy between art historians. Some historians like Maulvi Nur Ahmad Chishti and Rai Behadur Kanhayalal are in favour of the view that she was buried in Lahore, while *** some historians disagree with this opinion and quote that she was buried in Delhi. (6. Naqoosh 1962)

This report is primarily concerned with the remaining structures of the Zeb-un-Nisa tomb. As it

has been mentioned in the introduction that the garden has vanished but only the tomb, eastern gateway and two isolated turrets have continued to exist and are in a very serious condition. The garden has been encroached by the residents of the Nawankot village. Day by day the settlement is developing and these masterpieces are turning into ruins. It seems that a time will come when these remains will disappear like many other monuments of Lahore. Therefore something should be done for their survival in order to save this important heritage.

First of all the concept of main entrance in the Mughal Architecture will be discussed. For this purpose Architectural features used by the Mughals in their buildings like, Forts, tombs, palaces and gardens are taken into consideration. It is clearly noticed that one has to enter through a gateway which commemorates the dignity of that particular era. Different building entrances were designed in different styles by using various architectural features usually having a look of massiveness, like the entrance of the Lahore Fort and sometimes by using delicacy and humility in its design as that of the Badshahi Mosque which is to be approached after stepping up so many risers, looking downwards and thinking of entering into the Mosque which is a place of communication between the God Almighty and the human being.

Following are the characteristics of the Nawankot gateway according to the department of archaeology and museums of Pakistan.

- ***SERIAL NO. __ 86**
- **LOCALITY __ NAWAKOT, MULTAN ROAD, LAHORE.**
- **NO. OF MONUMENTS__ TILED GATEWAY AND TWO (BASTIONS)**
- **OWNED AND MAINTAINED BY __ GOVERNMENT.**
- **CATEGORY CLASSIFICATION __ 1(a)**
- **CHARACTER MUSLIM SECULAR.**
- **DATE__ 3RD PART OF 17TH CENTURY A.D.**
- **AREA __ 0.25 ACRE - = 2 KANAL.**

- **WHETHER DEMARCATED __ YES,NO:-
943**
- **DATE OF NOTIFICATION __ 20/10/1914.**

Previous Restoration Work

*In 1820, Meher Din, who was an immigrant from Hujra Shah Mugeem, with the permission of Sobha Singh, one of the Governor of Lahore, took steps to convert the Garden of Zeb-un-Nisa into a settlement. The Garden was at that not being taken care of and was therefore, in a bad state. With some financial help from the ruler, Mokham Din made repairs and built the boundary wall and the Northern pavilion. Afterwards, dwellings were constructed and the place gradually turned into a village, which was later called Nawankot. Hence the fact that Nawankot was built, in the grand garden of Zeb-un-Nisa's tomb. (7. Molvi 1864)

The authenticity of the above mentioned incident is verified by the annual reports of the Archaeological Survey of India (ASI) which were made a century later. **According to the Annual Report of the Archaeological Survey of India 1921-22, compiled by D. Brainerd Spooner, at Nawankot, repairs were commenced and works executed on the outsides of the wall and to the two remaining corner pavilions. But the report also mentioned that much remained to be done at the gateway and pavilions, which were decorated with colored tiles, had for many years been occupied by the villagers as habitations, with the result they had left it them into a bad state of repairs. (8. Report 1921)

***Another report of the Archaeological Survey of India which was compiled in 1928-29 by H. Hargreaves, mentioned that according to the recommendations made by Mr. H. Hargreaves in his inspection Note dated 31 March 1927, the Eastern gateway and the two corner turrets at the North-East and South-East of Nawankot near Lahore were acquired. The garden was at the time, occupied by the Nawankot village and the gateway and the towers although declared protected under the Ancient Monuments preservation Act, were appropriated for residential purposes. The report further mentioned that the acquisition was, therefore, a necessary preliminary to their conservation. The building had then been vacated and detailed proposals were made for its repair and maintenance. (9. Survey 1928-29)

Nawankot Monument In 1884

“KANHAYAL LAL” narrates the story in the following words.

The tomb-garden constructed by Zeb-un-Nisa in her life time had massive and solid walls. This garden had four splendid gateways which were open able to all four directions. Northern gateway and the eastern main entrance (which is still in its original state) has four umbrellas (Chattris) at its four corners with golden fluted ribs.

This main entrance has a beautiful building having sitting spaces on both sides. Front and side facades of, interior walls are covered with mosaic filled floral panels in which green, yellow and orange colours dominate.

On eastern wall of the tomb-garden i.e. towards north and south corners two turrets exist, which are similar to the Shalimar Garden turrets but they are totally encroached and are in a dilapidated condition. It was one of the most beautiful gardens of Lahore in its time, decorated with costly stones and furnished with pavilions, fountains and water reservoirs whose khiyabans (walk-ways) had geometric patterns in marble and stone. During the Ranjit Singh's rule, this garden was so badly treated, that its fountains in white marbles and walkways were removed in order to develop a residential scheme. Everything was sold out and only the mausoleum remained. Ranjit Singh also stripped off the white marble and lattice windows which were used in construction of his Baradari in Hazuri Bagh.

Present (Existing) Condition Of The Monument

The existing building has been encroached from all four sides. It has become an isolated element which had not been a part of the tomb garden of Zeb-un-Nisa. There was a time when it was visible from the main Multan road. It had a grand and splendid entrance lobby in its original state.

As a matter of fact, Multan road itself is the main encroachment which was laid down during the Sikh period.

Similarly the outer periphery wall, two turrets and the garden do not exist anymore. Most of the original features of the gateway and the remaining two turrets are in the worst condition, either encroached or blocked with the brick-masonry wall. For instance, there are two stair-cases which exist in their original state but their access is from the outside, though within the walled garden. They are in too much dilapidated condition.

The northern staircase has been blocked by the brick masonry where as the southern entrance of the stair case has a steel bar gate in order to stop the people from using the upper portions. In the same way the cells under the turrets have also been closed with brick masonry.

The raised and depressed paneled lime plaster and kashikari decoration have a few remains on the gate way exterior walls through which basic patterns and colour scheme can be seen. It could be helpful for the purpose of conservation and to keep the information alive in the books and documents for the next generation.

Most of the decoration of fresco painting on the interior walls has been badly overlaid by the smoke of burning fire over the floors in the various parts of the building, like chambers at ground and first floor level and especially the enclosed side of the stair case. It shows that most of the features and decoration have gone through misuse and repairs by the use of modern materials.

The mausoleum is square in plan having three openings on each side. The central one is the largest and in the shape of a pointed arch where as the rest of the two are comparatively low in height and are in the form of flat arches, having white marble lattice windows fixed in them.

In the centre of the tomb there was a splendid platform of white marble having a grave



Existing East Elevation of the Gate Way
in the Dilapidated Condition



Existing South Elevation of the Gate Way
in a Dilapidated Condition

with a a gravestone and huge lattice windows all around in the same material enclosing the grave

with representation of the feminity of the grave of Zen-un-Nisa.

Description of Interior and Exterior

Mughal buildings are no massive and structurally sound that it gives a grandeur and life in the gloomy past. A beautiful blend of light and shade and continuous harmony in the designed spaces, are the basic elements found in the architectural context. These qualities are highlighted by different professionals like, Architects, Designers and Art historians of various countries. However decoration and decorative techniques are also admirable. Decoration of interior and exterior spaces, on raised and depressed panels, floors, dado, moulding of cronies, fret work and free stone work at different levels. Geometric patterns, calligraphy, fruits, flowers, trees and pottery are the main design elements found in the building.

Various decoration techniques are elaborately used in the Mughal architecture,

- i. Fresco Painting. (Naqqashi)**
- ii. Stalactite. (Ghalib Kari)**
- iii. Glazed Tile Work. (Kashi Kari)**

All the above mentioned decoration techniques are applied on the brick masonry. In order to prepare the base for these decoration techniques following steps are under taken.

- a) Coarse Kanker lime plaster.
- b) Fine Kenker lime plaster.
- c) Glazed Plaster.

Fresco Painting

The technique of Fresco Painting has its origin from the second century B.C onward. This technique varies from place to place, depending on the availability of material. In Italy Fresco technique was developed in the 14th century in which water was used with the pigment on the lime surface.

It is controversial, either the fresco painting was first time took place in the reign of Humayun, who brought painters from the Persia, or the foreign missionaries introduced to the Mughal court at Fatepur Sikri, during Akbar's time.

In this technique the skilled painters worked in-groups under the supervision of a master, during their painting in the various type of buildings like



The decorative depressed panels of fresco painting at ground floor most of the brick masonry is exposed and the remaining plaster is turned into black colour due to soot and fire work by the edict people.

temples, tombs, haveli etc. It was applied on wet plaster over the interior walls which gave it as much durability as the building it adorned. *In the early days the natural pigments were used, for instance:-

- Kajal (lamp black) for Black.
- CHUNA (lime) for White.
- Neel (indigo) for Blue.
- Harabata for Green.
- Geru (red stone powder) for Red.
- Hirmich (an earthy mineral) for Brown.
- Kesar (Saffron) for Orange.
- Pevri (Yellow clay) for yellow Ochre.

The above mentioned colours were preserved in dry form. At the time of application they were mixed to form a paste and applied on the wall surface which was already wet. Preparation of the wall was more difficult than the application of colours, on the wet surface. In order to bring perfection in the painting the artist and the mason had to co-ordinate to finish their job side by side.

Frescoes were first drawn on paper, the limes were then perforated with a pin to form a stencil, which was placed on the wall and rubbed with charcoal or brick dust. This produced a dotted tracing on the wall that served as an out lime for the artist.

Ghalib Kari:

It is ornamentation under the convex and concave moulding over the door height running all around the room like coarces and the stalactite work under the soffit of the dome, in the Mughal architecture.

The surface on which Ghalib Kari is to be done should be properly cleaned in all respects. First of all 1½ to 2½ thick worse coarse (rough) Kankar lime plaster is applied over the desired surface to make the base uniform and even. Plaster of Kankar lime and Coarse Kankar lime is applied over it and the surface is properly rammed and pressed until it gets completely dried. Then the rough design of the desired pattern is drawn on the plaster surface.

In the next stage the desired pattern of Ghalib Kari is prepared with 2" to 4" thick coarse Kankar lime plaster in concave and convex manner Again this surface is rammed and pressed until to completely dried and compact.

In the next stage ¾" thick fine Kankar lime plaster is applied over the surface to make five Ghalib Kari pattern where it is rammed at the same time and the these patterns are finished with glazed

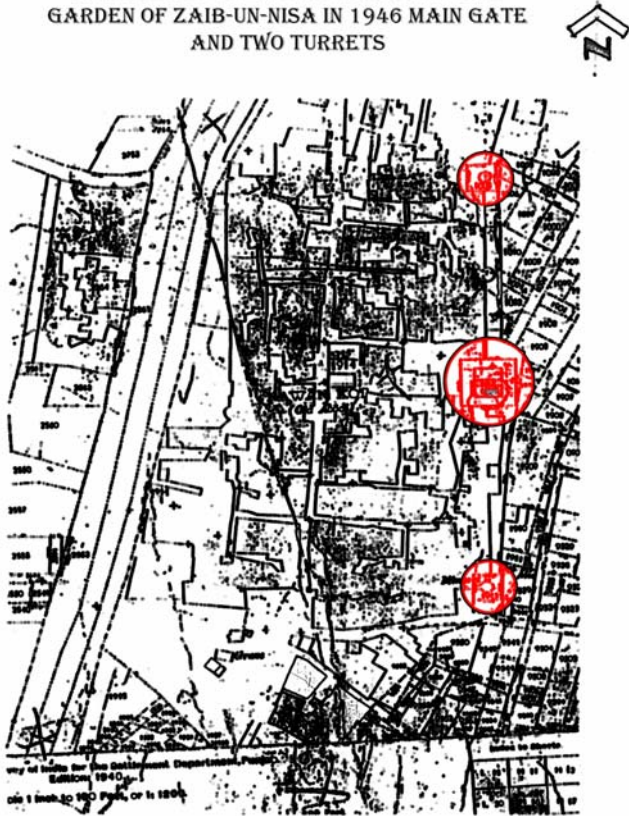


The decorative Ghalib Kari has been completely vanished from ceiling.

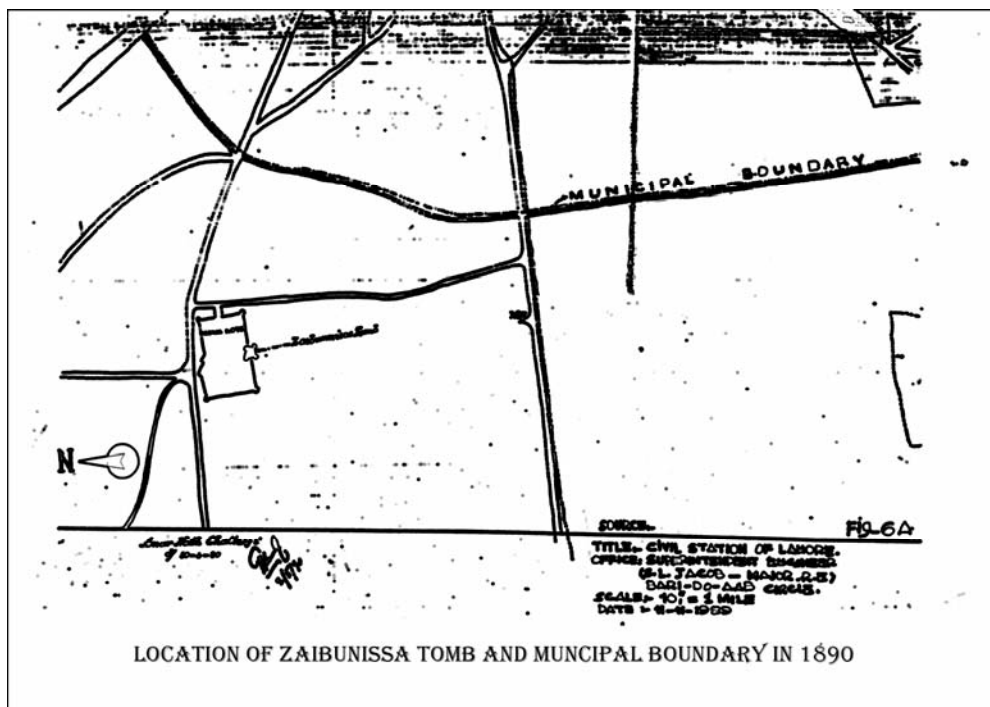
plaster / white lime cream. As the last step lime work is done on the edges of the patterns and fresco

painting may be prepared over the plain surfaces if needed. The damaged surfaces of these decorations are repaired with reference to the existing designs, form work and colour.

LOCATION OF THE REMAINS OF THE TOMB GARDEN OF ZAIB-UN-NISA IN 1946 MAIN GATE AND TWO TURRETS



SOURCE: ARCHEOLOGICAL SURVEY OF INDIA (ASI) FOR THE SETTLEMENT DEPTT, PUNJAB



LOCATION OF ZAIBUNISSA TOMB AND MUNICIPAL BOUNDARY IN 1890

Kashi Kari

Gateways and entrances have always been the dominating feature of a building through out the history of architecture all over the world. In fact any entrance or gateway expresses. The notation of grandeur and invites and attracts a visitor to come inside. Various techniques of ornamentation and decoration of the buildings have been introduced in different ages of the world, which give an idea of the style of decoration particular to that period.

Even in Egyptian and Greek architecture, the buildings were adorned with figurative panels and motifs over different parts and sections of the building.

*The craft of making glazed and enameled tiles was brought to sub-continent from the Central Asia in the 12th century. In Punjab such type of decoration is called kashikari.

The kashikari work had been widely used for the decoration of gateways, mosques and tombs. Mughal emperor Shah Jehan is famous for the Thatta mosque (Sindh) and Aurangzeb Alamgir for the Khanqah Abdul Warraq (Multan).



Kashi Kashi panels (South Elevation)



Kashi Kashi work over the side panel of the main entrance

Values and Threats Analysis

Documentary

It is a historically documented building. The purpose of the documentation is to bring it back to life, the dying historical moment and to provide information about the architectural and ornamental values which give place in the cultural history of the civilization.

Historic

History tells that the building is associated with the elder daughter of emperor Aurangzeb. She was a poetess. She designed and constructed her tomb expressing the philosophy of paradise. After her death, the garden was enclosed and from time to time many additional alterations were made in its original scheme.

Archaeological Value

Archaeological remains are not present, but further studies may reveal remains of extinct building buried in open area around the building.

Esthetic & Symbolic

A high degree of Persian influence is found in its architectural decoration, especially high colored glazed tile works known as kasha Kari. It is a form of mosaic work. A large variety of mughal buildings exist today in various localities of the historic city of Lahore. Many of these buildings are reputed to deteriorating and falling apart due to various reasons, such as lack of maintenance and improper protection through a less appropriate maintenance and inadequate legislation.

Architectural Value

The building was constructed under royal patronage and is a classical example of mughal architecture. Construction showing extra ordinary achievements in the building art & craft displayed in a classical manner. It is a symbol of gateways to walled gardens with embellishment in glazed mosaic (kashikari), fresco painting (nakashi), stalactite (galib kari) and decorative brick work (mamari).

Threats

i. Abandonment

Due to abandoned structure, the care and maintenance is no more. In fact there is no life in it, with the result that the building has deteriorated to some extent.

ii. Flooding

The monument site is in depression as compared to other houses. The existing drain on the northern site is at higher site which is mostly choked and over flooded especially during the rainy season, the water is accumulated at the ground and it remains there for weeks and months.

iii. Misuse

Although the building is under the control of department of archaeology, the attention required towards the building, is not given. The open area of the building is misused by throwing garbage and wreckage, playing area for the children in the morning and in the evening it becomes den of the drug addicts.

iv. Natural Decay

Deterioration of the brick work and the building decoration has become due to natural disasters, dust storms and rain. Put log holes and voids during rainy seasons, caused dampness on inner and outer walls.

v. Encroachment

The whole site of the tomb garden is badly encroached by the local residents. The Nawankot monument is setting in a highly and thickly populated area, open spaces around the building is hardly 15ft to 20ft.

Problems & Issues

1. Difference of levels
2. Rising dampness
3. Accumulation of rainy water
4. Overflow of sewerage
5. Encroachments
6. Heaps of garbage and debris
7. No maintenance
8. Vandalism

As already described that the Nawankot monument consist of the main entrance building and two isolated turrets one on the northern side and the other on southern side and the tomb building of Zeb-un-Nisa.

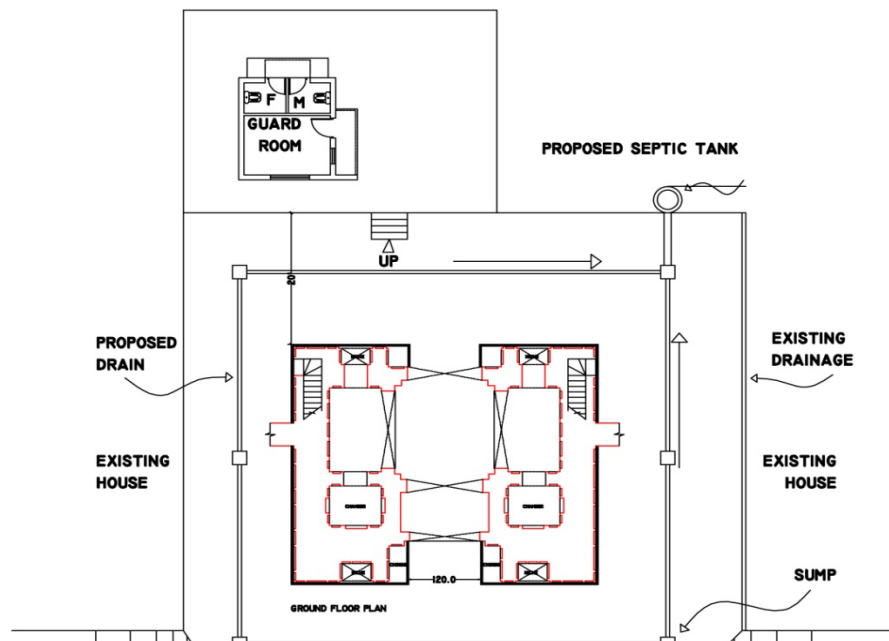
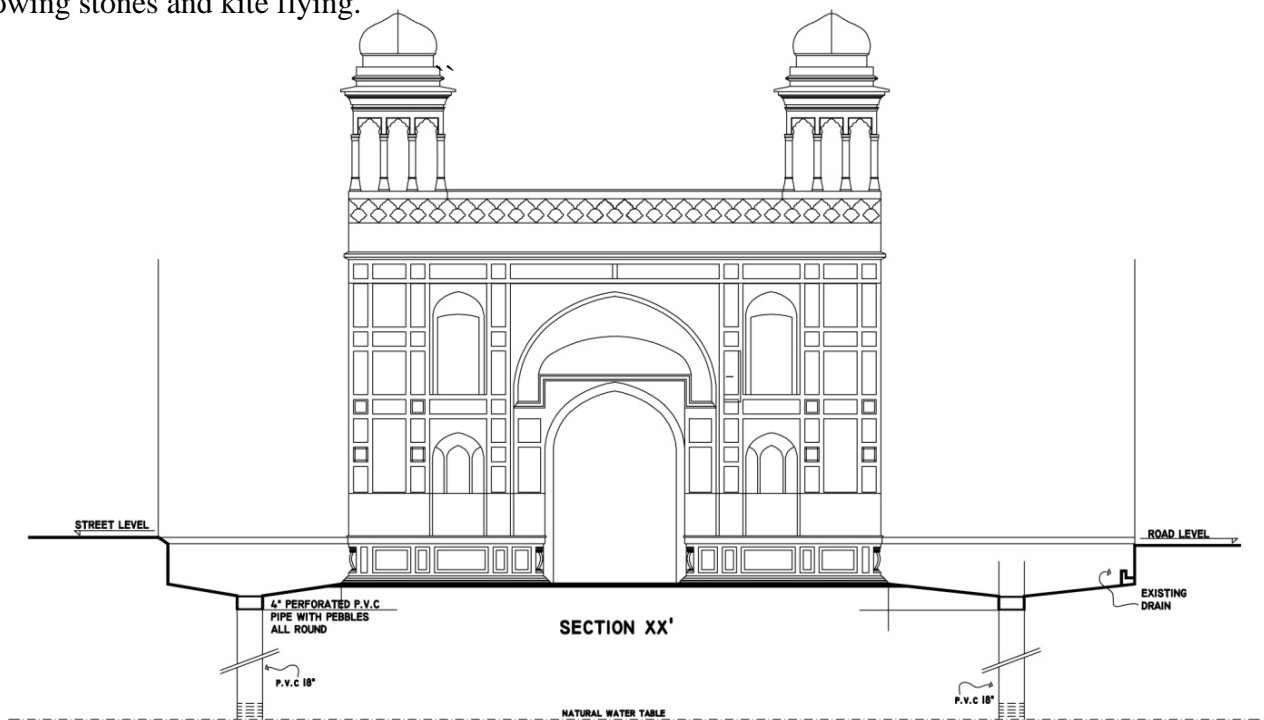
Due to the distance among the main entrance and the turrets various problems and difficulties exist within and around the Nawankot monuments. These problems played a vital role in the protection, conservation and recycling of the main entrance building of Nawankot monument.

Following problems are identified:

1. The level difference around the Nawankot Monument is 3 ft. to 5 ft. with reference to its surrounding.
2. Rising dampness in various portions of the building is visible, through the exterior walls. While stains of seepage are very prominent over the interior walls of ground level as well as first and top level and over the ceiling too.
3. Accumulation of rain water and over flow of sewerage produces puddle and stink weeds all around), the main entrance of building and the turrets, which does not allow to enter or go closer to these structures.
4. Heaps of garbage, debris and wreckage spread on everywhere in normal days, which stink, and odour. During rainy season it is un tolerable to pass through these structures
5. Encroachment is of two categories:- (a) Land encroachment, the wall which joined the entrance with two turrets have dis-appeared and people have constructed there houses. (b) Another type of encroachment is of the drug-addicts, which is a Paradise for them.
6. Monuments of different periods and of various categories are found in Lahore. Few of them

have totally disappeared; some of them have their remains.

Rests of the monuments exist either in good state or their different features are being deteriorating. Due to lack of funds neither monument are conserved not skilled staff nor are craftsmen hired for their repairs. Vandalism: Most of the encroached houses are 3 to 4 storeyed and streets are very narrow. There is no open space in the vicinity which would be playable area for the children except the main entrance building of Nawankot monument Children use to play around the space of the building. (External features, bricks masonry) Decoration within and outside of the building has been destroyed deliberately by human action like playing cricket, throwing stones and kite flying.



Goals

1. A mere attempt at the preservation of the monument is not enough for its survival. When we talk of the preservation of a building or a historic relic our efforts should not just confine to the physical aspects of the science of preservation but should also be directed towards a wider goal, and that is to survive the spirit of the building and put new life into it. This can only be done if we have people visiting these historical places and observing the splendor, and beauty of the rich heritage.
2. This monument is one of the many splendid examples of Mughal Art and Architecture. Since the monument exists in Lahore in an unplanned housing scheme, hardly a kilometer away from the Chauburji garden, facilities and services according to the requirements of today, are to be provided that encourage the tourist to visit and see this historical relic at first hand. However, these facilities and services should be of a special nature that will maintain the original character of the monument and enhance the feeling of tranquility and peace which are basic to this monument.
3. The approaches from the main roads should be emphasized through sign boards for public exposure.
4. The access should be modified and straightened to have the vistas giving glimpses of the monument.
5. The wall between main entrance and tomb should be immediately demolished which will help to expose the structure and revive their original setting to some extent. This will also discourage people from throwing garbage and other waste material.
6. The monumental structures should be saved from the rain water both direct and stagnant.
7. The abandoned structures are being used by drug addicts who make fire work in the chambers which is damaging the structures. So the building of main entrance should be readopted for some appropriate use to make it alive and keep it well maintained.
8. Modern materials like cement and concrete should be avoided in repairs, because new materials do not make bonding with original one.

Proposals of Recommendations

Immediate Action Plan (Short Term)

- 1) Cleanliness must be the first priority, for instant removal of garbage and debris within the main gate building and from both turrets.
- 2) Heaps of wreckage and filth outside the buildings should be removed as soon as possible.
- 3) A guard must be appointed.
 - a) The drug addicts must be stopped from misusing the building.
 - b) Public must be stopped from throwing waste and garbage in and around the premises of these structures.
 - c) The children must be stopped from playing, flying kites, which is an example of deterioration through physical abuse.
- 4) Turrets should not be used as poles for the electrical and telephonic cables.
- 5) Each structure must be demarcated and a Plaque be put up having an abstract about the history of the monument.
- 6) Rehabilitation of the abandoned structures by the use of electricity in the night time.
- 7) Residents in the vicinity of the monument should be educated and given awareness about the importance and significance of the architectural heritage.
- 8) The law enforcing agencies must coordinate with the Departments of Archaeology for imposing the rules and discipline within the vicinity.

Urgent Actions (Mid Term)

- 1) Areas around the structures should be hard landscaped. A drain should be designed through which rain water and over flow of sewerage can pass to the pit as designed in the following section .
- 2) Levels around these structures should be maintained in such a way that the rain water and overflow of sewerage cannot flow in the direction of these structures.
- 3) Open area should be planned in such a way that it could facilitate the residents while crossing through these structures.
- 4) At some wall surfaces put log holes and voids during rainy seasons have been dampened the inner and outer surfaces. Such holes and void should be filled up as soon as possible.

Maintenance Plan of Nawankot Monument

5) All repairs done with modern materials have cracked and it has lost its bonding with the original materials. Such non-monolithic and non bonding behavior of the material be urgently tackled so that the external and internal decoration could be saved and protected.

Necessary Action (Long Term)

- Keeping in view the area problems and lack of community facilities, the least possible solution is to convert the main entrance building into a necessary and suitable space for the adaptive reuse of the building.
- In order to conserve and for the adaptive reuse of the building, a team of specialized and experienced experts consisting of architects and engineers should be formed by the Department of archaeology.
- All concerned labor should be technically trained for the best possible results in the name of conservation.
- Levels around the structures are to be maintained with the rest of the levels in the surroundings. The accumulated water has started to rise along the walls due to capillary action, which has completely destroyed and annihilated the wall decoration, kashikari and fresco painting externally and internally respectively.
- Internally as well as externally, where ever original decoration and lime mortar survives, it should be preserved.
- Wherever the original brick masonry has been racked out, the racking portion should be cleaned thoroughly to remove the old mortar dirt from the cavities and voids with the help of a blower. Then with the help of old material the brick courses should be properly filled with lime mortar.
- Removal of previous non-compatible repairs and strengthening of fabric and structure in the compatible repairs
- Conversion of building for reuse, Interventions to make building usable by providing flooring, wall surfacing on bear surfaces, doors at strategic location and other installations.
- Restoration of missing elements to the extent that building could be properly interpreted presented and reused.
- Provision of building support facilities, toilets, guardroom, water reservoirs, electrical panel and drainage etc.

TIME TABLE

Maintenance plan for the Nawan Kot monument, Lahore - Pakistan.

| S.# | Suggested Steps & Action | Time Table | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Y | 1 | | | | 2 | | | | 3 | | | | 4 | | | | 5 | | | | 6 | | | | 7 | | | |
| | | Q | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 1 | Formation of technical team to monitor and implementation of plan. | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Liaison with community for awareness and participation. | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| 3 | Co-ordination with civic and law enforcement agencies. | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Provision of watch and ward | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Temporary lights at night for watch and ward. | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Removal of garbage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Removal of utility lines installed on the building | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | General cleaning and tiding up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Temporary arrangements to stop ingress of water into the surface | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Actions to stop penetration of rain water into building fabric and structures | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Preservation of extent wall plaster, wall decorations (paintings and mosaic work). | | | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Removal of previous non-compatible repairs and strengthening of fabric and structure in the compatible repairs | | | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Interventions to provide electrification and community services in the building | | | | | | | ■ | ■ | ■ | | | | | | | | | | | | | | | | | | | | |

WASA: Water & Sanitation Authority

Y: Year - 12 months

Q: Quarter - 3 months

Maintenance Plan of Nawankot Monument

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