Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger

Point 7 de l’Ordre du jour provisoire: État de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

Fort and Shalamar Gardens in Lahore (Pakistan) (C 171)
Fort et jardins de Shalimar à Lahore (Pakistan) (C 171)

23-29 April 2018
23-29 avril 2018
REPORT ON THE JOINT WORLD HERITAGE CENTRE/ICOMOS REACTIVE MONITORING MISSION TO THE FORT AND SHALAMAR GARDENS IN LAHORE (C 171, Pakistan)

23–29 April 2018
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EXECUTIVE SUMMARY AND
LIST OF RECOMMENDATIONS

BACKGROUND

In 1981, the Fort and Shalamar Gardens in Lahore (Pakistan) was inscribed on the World Heritage List under cultural criteria (i), (ii) and (iii). The inscription recognized the Outstanding Universal Value of the property for its two component parts – one characterized by monumental structures and the other by extensive water gardens – are outstanding examples of Mughal artistic expression at its height, as it evolved during the 16th and 17th centuries. The accidental destruction of two of the three hydraulic works and related walls of the Shalamar Gardens in 1999 for widening the Grand Trunk Road (GT Road) significantly marred the integrity of the Gardens, and the property was placed on the List of World Heritage in Danger in 2000. Following significant efforts made by the State Party to implement the corrective measures, and after the Desired State of Conservation for the Removal for the List of World Heritage in Danger (DSOCR) had been met, the World Heritage Committee decided to remove the property from List in Danger at its 36th session (St Petersburg, 2012).

Since 2015, this property is mainly threatened by the progressing construction of a new Orange Line Metro project, which includes a viaduct passing in the immediate vicinity of the property. Additional threats include: encroachment and urban pressure; inadequate management mechanisms (including incomplete legislation, lack of financial resources); and the absence of clearly defined boundaries for the protective buffer zone of property.

For a prolonged period (from 2007 onwards), the State Party did not inform the World Heritage Committee of the Orange Line Metro project, especially in view of the impacts of the planned construction and the route of the metro line on the OUV of the property, as was its obligation in conformity with Paragraph 172 of the Operational Guidelines. Nor did the State Party inform the 2012 joint UNESCO/ICOMOS Reactive Monitoring mission to Fort and Shalamar Gardens in Lahore, even though the monument was then on the List of World Heritage in Danger (since 2000). The project was not mentioned in Section II of the Second Cycle of Periodic Reporting (2011-2012) for the property, which invites States Parties to indicate ongoing and planned projects that may impact the OUV of the property and provides a reminder of the provisions of the aforementioned Paragraph 172. It was not before the Centre received information via third party sources that the Orange Line Metro project was being implemented that it was able to contact the State Party and begin obtaining official information.

While it is noted that a Heritage Impact Assessment was conducted in 2016, this study significantly downplays the very serious impacts of the new metro line on OUV and does not in any way represent the reality. It also failed to comply with the international standards for such assessments, and in particular the 2011 ICOMOS Guidelines on Heritage Impact Assessments for Cultural World Heritage Properties. The mission was not able to obtain information on the reasoning that led the Department of Archaeology of the Government of Punjab to issue, in November 2015, a Non-Objection Certificate (NOC) for the project, based on an assessment by their Advisory Committee.

In the light of the potential threats posed by the Orange Line Metro to the property, the World Heritage Centre and ICOMOS proposed this property for inclusion on the List of World Heritage in Danger at the 40th and 41st sessions of the World Heritage Committee, but after much debate, the Committee decided not to proceed at the time. A Reactive Monitoring mission to the property has been outstanding since 2016, and should have allowed for a review of the metro line project and its impacts before irreversible decisions were taken. In 2017, the Committee expressed its deep regrets that the State Party had not invited the Reactive Monitoring mission as requested, and that no exhaustive impact assessments for this project had been undertaken, including the visual impact assessment requested by the Committee, to determine any and all impacts that the project may have on the Outstanding Universal Value (OUV) of the property, and thus whether and how these might be mitigated.

A final decision on the project was published by the Supreme Court of Pakistan in early December 2017, granting approval to the project, although construction had already progressed significantly by that time. The State Party invited the Reactive Monitoring mission following this decision.

At the invitation of the Government of Pakistan, and in accordance with Decisions 40 COM 7B.43 and 41 COM 7B.96, a joint World Heritage Centre/ICOMOS Reactive Monitoring mission visited the property from 23 to 29 April 2018. The mission was conducted by Dr Feng JING, Chief of the Asia
and the Pacific Unit of the UNESCO World Heritage Centre (Paris), and Dr Alkiviades Prepis (Greece), Cultural Heritage expert representing ICOMOS International. The main objectives of the mission were to assess the impacts of the Orange Line Metro project on the OUV of the property and to discuss with the relevant authorities whether and how these might be mitigated, taking into account the decision of the Honourable Supreme Court of Pakistan published in December 2017.

The Mission team met with representatives from a wide range of government agencies and institutions, as well as representatives from ICOMOS Pakistan, researchers and NGOs, and conducted site visits to both component parts of the property.

CONCLUSIONS

During the 41st session of the Committee, the World Heritage Centre and the Advisory Bodies recommended that “taking into consideration: (i) the impacts of the ongoing construction work on the setting and integrity of the Gardens; (ii) the absence of a comprehensive management mechanism which can control and monitor urban encroachment as well as the related development projects in the vicinity of the property; and (iii) the absence of any mitigation measures proposed by the State Party, it is recommended that the Committee immediately inscribe the property on the List of World Heritage in Danger, in accordance with Paragraph 179(b) of the Operational Guidelines.”

The mission confirmed the adverse impact of the construction of the Orange Line Metro on the OUV of the property. While the need for improved public transport in Lahore is duly acknowledged, and although the existing Heritage Impact Assessment does identify mitigation actions, the route and location should have been determined in such a way that they avoided impacts on features of the Shalamar Gardens which contribute to the OUV of the property.

It became clear to the Mission that the provision of a metro for Lahore does not mean that it had to pass directly in front of the Shalamar Gardens. Two alternative schemes that could have provided a solution to a Metro alignment were not taken forward by the State Party. The fact that these were not considered and that the World Heritage Committee was not appropriately informed of details of this major infrastructure project highlights fundamental weaknesses in the protection and planning of the property, which must be urgently addressed.

In the opinion of the mission, there is no doubt that the construction of the Orange Line Metro, which is set to pass just in front of the south entrance of Shalamar Gardens, has irreversible impacts on the values relating to the artistic and aesthetic accomplishments exemplified by property and recognised at the time of inscription, as a masterpiece of human creative genius and as a unique and exceptional testimony to the Mughal civilisation at the height of its artistic and aesthetic accomplishments in the 16th and 17th centuries.

The Orange Line Metro is already a reality and there is no alternative. The property suffers from obvious and very significant visual and noise impacts, perceptible even from the second and third interior terraces, which impact on the perception and image of the site, and on its appearance from both outside and inside the garden.

The property is to be further impacted by the heavy noise of the Metro Line, once it is in operation, which will add to the already substantial noise and pollution impacts of the Grand Trunk Road. The Gardens will no longer be an oasis of peace, as originally intended, and the increased pollution could have highly adverse impacts on the stonework of the gardens.

It is now too late to alter the route or otherwise fully mitigate the impacts – only minor adjustments can be made, such as enclosing the station and creating a tree screening.

The current Reactive Monitoring mission therefore confirms the highly adverse impact of the ongoing construction work of the Metro Line on the property's OUV, and notably (i) the damage to its integrity and setting; (ii) the destruction of the archaeological remains of Mughal era brickwork/structures that were likely part of the Shalamar Gardens’ hydraulic system and connected to the Inayat Bagh, a extant Mughal pavilion; (iii) adverse visual impacts; (iv) increased air pollution; (v) high levels of noise and disturbance at this Mughal masterpiece of creative genius.
INSCRIPTION ON THE LIST OF WORLD HERITAGE IN DANGER

The Reactive Monitoring mission considers that the Orange Line Metro represents a threat to the OUV of the property, notably its authenticity and integrity, in accordance with paragraph 179 of the Operational Guidelines, and that the World Heritage Committee should consider inscribing the property on the World Heritage List in Danger. This would allow the State Party to show its good will by cooperating and proceeding immediately with the full and exhaustive implementation of all mitigation measures and recommendations listed below.

It is of crucial importance that, before any of the proposed measures are implemented, detailed project studies be submitted to the World Heritage Centre for review by the Advisory Bodies, and that implementation only start after positive feedback has been received from the World Heritage Centre and the Advisory Bodies.

GENERAL RECOMMENDATIONS

Lahore is a historic city with 12 million residents. While the crucial need for public transport and its overall benefit to the population and the environment are duly acknowledged, there is no doubt that the actual location of the elevated viaduct girders near the Shalamar Gardens component site impacts negatively on the OUV of the property.

During the past decades, Lahore has witnessed rapid social and economic development in Pakistan, and will be facing even more and more challenges in terms of conservation and management. It appears that further improvements are required, in particular in terms of setting a broader vision for the protection and management of the property within a living heritage city, or even a historic urban landscape. Efforts must be made to integrate tangible and intangible heritage values, including elements that foster local cultural identity and history, are sources of pride for the communities, and link to symbolic, educational or spiritual aspects of cultural heritage. Improvements are also required to better coordinate the enforcement of different rules and regulations governing urban and rural planning, land use, tourism development and heritage conservation.

In Lahore city, one of the primary issues in years to come will be urban and rural regeneration and expansion. In this regard, it is essential to establish an active and more dynamic interaction between conservation and development. This includes processes of community consultation and public participation, which should be integrated into the conservation and management systems.

In the near future, if Lahore is a well-managed living heritage city, it will have strong competitive power to attract not only tourists, but also residents of Pakistan. From the historic values of built heritage and the increasing associative intangible heritage values to local cultural identity and community pride, the links with religious leaders and community members, educational values, the symbolic role and spiritual dimension of cultural heritage (and notably Islamic heritage), these aspects and associative cultural products constitute crucial ‘cultural capital’ towards the development programme for Lahore.

To formulate specific recommendations found below, the Mission held open and frank discussions with the competent national and local authorities. Overall, the mission wishes to stress again the great need to adequately manage and effectively control encroachment and urban development in and around the property, and therefore requests the State Party to immediately undertake setting studies and implement procedures in this regard, to be taken into account when proposing an enlargement of the property’s buffer zone.

SPECIFIC RECOMMENDATIONS

The mission reiterates the point made in World Heritage Committee’s Decision 34 COM 7A.25 (Brasilia, 2010), namely that “work remains to be done to ensure an effective control of encroachments around the Shalamar Gardens”, and that “this is a delicate issue that requires careful consultations with the local community and appropriate solutions that balance conservation needs and sustainable development”, and proposes the following:
**SHALAMAR GARDENS - ORANGE LINE METRO PROJECT**

1. Redirect the GT Road behind the existing Orange Line Metro, using the lanes of the one of the two current directions of the dual motorway (i.e. redirecting traffic to the lane beyond the viaduct, currently used as a single-direction lane), and construct an additional motorway further on to the south for the other direction traffic;

2. Transform the perimeter road into a pedestrian street and lower the perimeter road, which will contribute to the rehabilitation of the historic gateways to the site. Move vehicular traffic to the surrounding streets, further away, introducing a Noise Sensitive Zone in the surroundings. Safeguard shops in the surrounding streets;

3. Construct a tube of triplex transparent glass, reinforced with a PVB soundproofing membrane, covering the Metro Line viaduct between the Shalamar Garden and the Pakistan Mint stations, which could also help mitigate the visual impact on the site;

4. Affix station curtains made of triplex transparent glass on the road side and on the piers along the viaduct bridge, between the Shalamar Garden and the Pakistan Mint stations, reinforced with a PVB soundproofing membrane, to reflect the noise from the motorway away from the south side of the Shalamar Gardens;

5. Mitigate pollution caused by suspended particulates from vehicle emissions, fumes, dust, chemical compounds of car pollutants, which have long-term destructive effect on the historical buildings and their ornamentation;

6. Reveal the historical GT Road (which originally passed at a lower level) and create a pedestrian area alongside the south façade, thereby gaining the possibility of opening the south (British) entrance to the site, which is currently impossible due to the fast traffic and the limited dimensions of the sidewalk. This pedestrian road could easily be connected with a future pedestrian road around the other sides of the Gardens, within the framework of the revised Buffer Zone;

7. Lower the ground level around the 3rd hydraulic tank and the historical GT Road to align it with those around the Aramgah-E-Shah Jahan, at the entrance of the First Terrain of the Shalamar Gardens, which is approximately 1.20 m lower than the current level of the GT Road;

8. Integrate the remaining 3rd hydraulic tank, as well as the remnants of the destroyed 1st and 2nd hydraulic tanks, to the south façade of the site, where they belonged historically, creating a wide green area and a real archaeological park which could also provide educational information on hydraulic systems of the Mughal period;

9. Immediately restore the external waterway along the outside façade of the Perimeter Wall, which was part of the Mughal hydraulic system of the Gardens;

10. Combine the construction of the additional motorway with the creation of an intermediate green belt to create a separation from the existing motorway, which will permit to protect the Mughal pavilion, which is possibly related to the Shalamar Gardens’ hydraulic system. Preliminary and investigation archaeological excavations are strongly recommended before any construction is planned in this area.

11. Develop a more extended green area with tall trees, giving a possibility of creating a natural “mask” for the newly-constructed Orange Line Metro;

12. Construct a drainage system all around the perimeter road, in order to effectively address the water penetration effect on the Perimeter Wall. The study for this project should be carried out in conjunction with the final arrangement and transformation of the perimeter road into a pedestrian street, within the frames of the Buffer Zone project of the site;

13. Urgently intensify the restoration/conservation works in progress, notably for the Aramgah-E-Shah Jahan, the Aiwan pavilion, the corner towers and the historical gateways, along with restoration of specific elements (brick pavements, wooden ceilings, and stone or marble coverings);

14. Monitor the effects of vibrations arising from the Orange Line Metro project on the property.
MANAGEMENT PLAN AND BUFFER ZONE

15. Enlarge the boundaries of the protective buffer zone on a wider scale, covering the surrounding building blocks and reaching the next surrounding streets.

16. Adequately manage and effectively control encroachment and urban development in and around the property in the buffer zone and its wider setting;

17. Upgrade the surrounding area with the creation of a pedestrian street, improve the natural environment, the living and working conditions of the inhabitants and create adequate infrastructure for the visitors;

18. Consider extending the property to include the Royal Mosque (Badshahi Masjid) and the Tomb of Rangit Singh;

19. Conduct extensive physical and socio-economic baseline surveys and a comprehensive analysis of the current situation and overall trends within the Buffer Zone area, as prerequisite for the future development of the area and the establishment of active and pragmatic regulations;

20. Introduce environmental protection instruments in the Buffer Zone. Implement controls for height and construction regulations and remove all inappropriate structures. Install underground infrastructure elements and networks where necessary;

21. Upgrade the working conditions of the traditional professions that operate in the area and create new economic opportunities for local residents, to help with poverty alleviation;

22. Integrate open spaces in order to serve the needs of the inhabitants, e.g. green areas, kindergarten and schools. Upgrade the areas surrounding active religious buildings and establish controlled parking places;

23. Rehabilitate the land immediately to the west of the Shalamar Gardens, which comprises historical buildings, and incorporate services for the site visitors (e.g. refreshments, traditional coffee/tea houses). The area’s main front side, on the pedestrian Grand Trunk Road (GT Road), should be treated accordingly.

COORDINATION & MANAGEMENT MECHANISMS

24. Set up participatory planning, conservation and management processes at the federal level, involving regular consultations with different stakeholders involved in the property, and guaranteeing the community’s direct participation in site management.

25. Ensure that reporting in the framework of the 1972 World Heritage Convention occurs in close cooperation between the Federal and provincial governments, bearing in mind that the duties under the Convention lie primarily with the Federal Government.

26. Avoid the overdevelopment of tourism infrastructure within the property and within its Buffer Zones and implement monitoring measures to avoid over-tourism.

27. Monitor and restore, when needed, the fragile component parts, especially those located in an urban setting.

LAHORE FORT

28. Proceed with the urgent conservation of interior decorations in all the historical buildings of the Fort require, and especially address issues related to water infiltration, the loosening of the marble covering and the restoration of the brick fabric and lime mortar covering of the facades;

PROPOSALS FOR NEW DEVELOPMENTS AND HERITAGE IMPACT ASSESSMENTS

29. Ensure that all conservation projects planned or being carried out at the property, along with the draft Buffer Zone project and the Management Plan, are submitted to the World Heritage Centre for review by the Advisory Bodies, in accordance with Paragraph 172 of the Operational Guidelines.
30. Ensure that any further development/renovation project are very carefully planned and evaluated, in line with the 2011 ICOMOS Guidelines on Heritage Impact Assessments for Cultural World Heritage Properties, and follow proper decision-making and approval procedures;

31. Evaluate and assess, at the level of the Department of Archaeology of the Government of Punjab, any new project proposals through techniques such as environmental, visual, social and economic impact assessments, so that conservation and sustainable development may work together.

32. Set up participatory planning, conservation and management processes at the federal level, involving regular consultations with different stakeholders involved in the property, and guaranteeing the community’s direct participation in site management.
1 BACKGROUND TO THE MISSION

1.1 INSCRIPTION HISTORY

The Fort and Shalamar Gardens in Lahore, Pakistan, was inscribed on the World Heritage List in 1981 at the 5th session of the World Heritage Committee. The property was originally submitted by Pakistan as two separate nominations – one for Lahore Fort and the other for the Shalamar Gardens. At the time, ICOMOS recommended that Lahore Fort to be inscribed under criteria (i), (ii) and (iii) and the Shalamar Gardens under criteria (iii), while also recommending that Shalamar Gardens be included on the List of World Heritage in Danger at the same time. However, the Committee decided to inscribe both Lahore Fort and Shalamar Gardens jointly under criteria (i), (ii) and (iii).

The property was inscribed on the List of World Heritage in Danger in 2000 at the 24th session of the World Heritage Committee, after complete demolition of two and the partial demolition of the third hydraulic work belonging to Shalamar Gardens, in 1999.

The property was removed from the List of World Heritage in Danger in 2012 at the 36th session of the World Heritage Committee, following the significant efforts of the State Party to implement the corrective measures and after the Desired state of conservation had been met.

The retrospective Statement of Outstanding Universal Value was adopted by the World Heritage Committee in June 2011.

1.2 STATEMENT OF OUTSTANDING UNIVERSAL VALUE

Brief Synthesis

The inscribed property includes two distinct royal complexes, the Lahore Fort and the Shalamar Gardens, both located in the City of Lahore, at a distance of 7 km. from each other. The two complexes – one characterized by monumental structures and the other by extensive water gardens - are outstanding examples of Mughal artistic expression at its height, as it evolved during the 16th and 17th centuries. The Mughal civilisation, a fusion of Islamic, Persian, Hindu and Mongol sources (from whence the name Mughal derives) dominated the Indian subcontinent for several centuries and strongly influenced its subsequent development.

The Lahore Fort, situated in the north-west corner of the Walled City of Lahore, occupies a site which has been occupied for several millennia. Assuming its present configuration during the 11th century, the Fort was destroyed and rebuilt several times by the early Mughals during the 13th to the 15th centuries. The 21 monuments which survive within its boundaries comprise an outstanding repertory of the forms of Mughal architecture from the reign of Akbar (1542-1605), characterized by standardized masonry of baked brick and red sandstone courses relieved by Hindu motifs including zoomorphic corbels, through that of Shah Jahan (1627-58), characterized by the use of luxurious marbles, inlays of precious materials and mosaics, set within exuberant decorative motifs of Persian origins.

Akbar’s efforts are exemplified in the Masjidi Gate flanked by two bastions and the Khana-e-Khas-o-Am (Public and Private Audience Hall). Akbar’s successor, Jahangir, finished the large north court (1617-18) begun by Akbar and, in 1624-25, decorated the north and north-west walls of the Fort. Shah Jahan added a fairy tale-like complex of buildings surrounding the Court of Shah Jahan (Diwan-e-Kas, Lal Burj, Khwabgah-e-Jahangiri, and the Shish Mahal, 1631-32, one of the most beautiful palaces in the world, sparkling with mosaics of glass, gilt, semi-precious stones and marble screening).

The Shalamar Gardens, constructed by Shah Jahan in 1641-2 is a Mughal garden, layering Persian influences over medieval Islamic garden traditions, and bearing witness to the apogee of Mughal artistic expression. The Mughal garden is characterized by enclosing walls, a rectilinear layout of paths and features, and large expanses of flowing water. The Shalamar Gardens cover 16 hectares, and is arranged in three terraces descending from the south to the north. The regular plan, enclosed by a crenelated wall of red sandstone, disposes square beds on the upper and lower terraces and elongated blocks on the narrower, intermediate terrace; within, elegant pavilions balance harmoniously arranged poplar and cypress trees, reflected in the vast basins of water.
Criterion (i): The 21 monuments preserved within the boundaries of Lahore Fort comprise an outstanding repertory of the forms of Mughal architecture at its artistic and aesthetic height, from the reign of Akbar (1542-1605) through the reign of Shah Jahan (1627-58). Equally the Shalamar Gardens, laid out by Shah Jahan in 1641-2 embodies Mughal garden design at the apogee of its development. Both complexes together may be understood to constitute a masterpiece of human creative genius.

Criterion (ii): The Mughal forms, motifs and designs developed at Lahore Fort and Shalamar Gardens have been influenced by design innovations in other royal Mughal enclaves but have also exerted great influence in subsequent centuries on the development of artistic and aesthetic expression throughout the Indian subcontinent.

Criterion (iii): The design of the monuments of Lahore Fort and the features of the Shalamar Gardens bears a unique and exceptional testimony to the Mughal civilisation at the height of its artistic and aesthetic accomplishments, in the 16th and 17th centuries.

Integrity
The inclusion by the World Heritage Committee of the originally separate Lahore Fort and the Shalamar Gardens nominations in a single inscribed property in 1981 broadened the range of design expressions - from monumental structures to water gardens - representing Mughal artistic and aesthetic achievements included in the property, and enhanced the overall integrity of the property. Both of the complexes in the inscription as they survive today are complete in and of themselves; the Lahore Fort complex includes all 21 surviving monuments within the defined Fort boundaries, and the Shalamar Gardens includes all of the various water terraces and pavilions within its enclosing wall.

However missions to the property (2003, 2005, 2009) have noted that the Badshahi Masjid (Royal Mosque) and the Tomb of Ranjit Singh, although located outside the Fort proper form an integral part of its physical and historical context, and suggested their inclusion within the inscribed property would enhance its integrity.

However the accidental destruction of 2 of the 3 hydraulic works and related walls of the Shalamar Gardens in 1999 for widening the Grand Trunk Road from Lahore to Mughal significantly marred the integrity of the Gardens, and the property was placed on the List of World Heritage List in Danger in 2000. Detailed analysis at the time also revealed considerable deterioration of some constituent monuments and serious urban encroachments affecting some structures. While remedial conservation efforts since 2000 have progressively addressed repair needs of individual monuments, these have not focused on reinstatement of hydraulic systems or components.

Measures to improve property integrity have been identified which include consolidation and protection of damaged water tanks, protection of external walls for both complexes, major investment in upgrading of monuments and features within both complexes, extension of the property and buffer zones to better protect the Outstanding Universal Value of the two complexes and their settings, consideration of inclusion of adjacent monuments within the property, and removal of the urban encroachments and improved control of urban pressures (including tourist bus parking).

Authenticity
The property in general maintains the authentic layout, forms, design and substance of both complexes and the constituent layouts, elements and features associated with the Mughal artistic and aesthetic expressions of the 16th and 17th century. Maintaining authenticity of workmanship necessitates that contemporary repair and conservation work use and revive traditional techniques and materials.

However authenticity of function and of setting has been eroded over time: the original function of these royal complexes has been replaced by public visitation and tourism, and the larger setting of both complexes now accommodates the traffic circulation and functional needs of the contemporary city of Lahore.

Protection and management requirements
The World Heritage property is protected under the Antiquities Act (1975), administered until 2005 by the Department of Archaeology, Pakistan. At that time, management responsibility for the property was delegated from the national level to the provincial level; and the Directorate General of
Archaeology, Punjab (DGoA,P) took on overall responsibility for property management. The DGoA,P is working within the guidelines laid down in the two Master Plans established for Lahore Fort and the Shalamar Gardens, and with project financing made available by the Government of Punjab in a “Five Year Programme for Preservation and Restoration of Lahore Fort” and a “Five Year Programme for the Preservation and Restoration of Shalamar Gardens” launched in 2006-2007. The DGoA, P is also being supported in its management efforts by a Steering Committee to guide implementation of planned projects, a Technical Committee to supervise conservation activities and to develop a “conservation plan” on the basis of priorities established in the Master Plans, and a Punjab Heritage Foundation to attempt to provide a permanent source of funding.

The placing of this property on the World Heritage List in Danger highlighted many threats to the Outstanding Universal Value of the property, and its integrity and authenticity. These include ongoing degradation of the tangible features of the property, insufficient ability to monitor and control urban encroachments on and adjacent to the property, and insufficient ability to control the actions of other agencies which could impact on the Outstanding Universal Value of the property.

The key components of the management response to sustain and protect its Outstanding Universal Value, integrity and authenticity, and to address the above threats include efforts to extend the boundaries of the inscribed area and its buffer zone, to complete and implement the Master Plans for Lahore Fort and Shalamar Gardens, to strengthen local community and institutional awareness of the values of the property and the primary sources of its vulnerability, and to improve co-ordination mechanisms among all stakeholders whose actions could affect the Outstanding Universal Value of the property, in particular national and local authorities involved in carrying out public works and promoting and managing tourism on the property.

### 1.3 EXAMINATION OF THE STATE OF CONSERVATION BY THE WORLD HERITAGE COMMITTEE

From 1993 to 2017, the World Heritage Committee examined the state of conservation of the property on many occasions. The full documentation records are available on the UNESCO World Heritage Centre’s web page at: [https://whc.unesco.org/en/list/171/documents/](https://whc.unesco.org/en/list/171/documents/).

The World Heritage Committee inscribed the property on the List of World Heritage in Danger at its 24th session (Cairns, 2000), following the complete loss of two of the three hydraulic works of the Shalamar Gardens and the partial demolition of the third, and in view of the lack of management mechanisms to adequately conserve the OUV of the property. The State Party made significant efforts to implement the corrective measures and to address the threats to the property. At its 36th session (St Petersburg, 2012), the Committee decided to remove the property from the List of World Heritage in Danger, considering that the Desired state of conservation had been met. In the same decision, the Committee encouraged the State Party to implement the recommendations of the 2012 joint World Heritage Centre/ICOMOS Reactive Monitoring mission, in particular:

- a) Formally submit to the World Heritage Centre the new proposal of the buffer zone of the property as a request for minor boundary modification, in accordance to Paragraphs 163-165 of the [Operational Guidelines](https://whc.unesco.org/en/list/171/documents/), by 1 February 2013;
- b) Continue with the review and update of the Conservation Plan;
- c) Allocate the necessary human and technical resources to ensure the sustainability of the management system and the adequate implementation of conservation interventions;
- d) Reconstitute the training institute within the Lahore Fort to ensure capacity building for craftsmen and professional and technical staff;
- e) Continue its efforts to relocate existing infrastructure and to enforce regulatory measures at the buffer zones to ensure the protection of the property;
- f) Further develop a comprehensive presentation and interpretation strategy to incorporate conservation works implemented.

The State Party continues its efforts to address the state of conservation of the property, but the property remains vulnerable to encroaching development, in particular new infrastructure.
Since 2015, the main conservation issue at the property has been the progressing construction of a new metro line (Orange Line) in Lahore, which comprises a viaduct passing in the immediate vicinity of the property. Additional threats include: encroachment and urban pressure; inadequate management mechanisms (including incomplete legislation, lack of financial resources); and the absence of clearly defined boundaries and buffer zone for the property and its components.

Taking into consideration (i) the impacts of the ongoing construction work on the setting and integrity of the Gardens; (ii) the absence of a comprehensive management mechanism which can control and monitor urban encroachment as well as the related development projects in the vicinity of the property; and (iii) the absence of any mitigation measures proposed by the State Party, the World Heritage Centre and the Advisory Bodies recommended in 2017 that the Committee inscribe the property on the List of World Heritage in Danger, in accordance with Paragraph 179(b) of the Operational Guidelines. Such a proposal was made at both the 40th (Istanbul/UNESCO, 2016) and 41st (Krakow, 2017) sessions, but after much debate, the Committee decided not to proceed at the time.

At its 40th session, the World Heritage Committee expressed serious concerns about the development of the Orange Line Metro project at the property (initiated in October 2015) and requested the State Party to prepare a Visual Impact Study of the project to be presented to the World Heritage Centre and the Advisory Bodies before pursuing the works of the Orange Line Metro associated with the Shalamar Gardens. The Committee further requested that the State Party invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property to examine the Orange Line Metro project, hold discussions with the relevant Government authorities, and review the management and protection arrangements of the property (see the full decision in Annex 1).

This Reactive Monitoring mission to the property – which had been outstanding since 2016 when it eventually took place in April 2018 – should have allowed for a review of the metro line project and its impacts before any irreversible decisions were taken.

The State Party’s 2017 report provided little detailed information on the Orange Line Metro project. The Government of Punjab appealed against the verdict of the Lahore High Court in August 2016, which had stopped all construction work within 200 feet of eleven heritage buildings, including the Shalamar Gardens and five other special premises in Lahore. Since the Committee examined the state of conservation of the property in July 2016, ongoing construction work had continued on both sides of the Shalamar Gardens, and joining the existing sections of the metro line with an elevated track passing in front of the gardens at very close distance would irreversibly compromise the authenticity and integrity of the property, thereby potentially threatening its OUV. Work progressed on the elevated metro line in all the areas beyond this 200-feet limit, and by May 2017, construction work had reached 113 metres to the west and 345 metres to the East of the entrance to the Shalamar Gardens. In addition, the distance between the proposed elevated viaduct deck and the Gardens was 17.8 m and 24 m, respectively from the south-west and south-east corners of the Gardens. The minimum distance between the proposed viaduct and the main entrance of Shalamar Gardens was 36.1 m, and the minimum distance from the proposed pier of the viaduct was 41.1 m. The height, measured from the bottom of the proposed deck, was 12 m above road level.

Although the State Party argued in its report that, on the basis of the report elaborated by the Pakistani National Engineer Service (NESPAK) who implemented the project, there would be no potential negative impact on the Shalamar Gardens arising from vibrations on structures near the track, it should be underlined that the full potential impact of the project on the Outstanding Universal Value (OUV) of the Shalamar Gardens goes far beyond the potential impact of vibrations.

At its 41st session, the Committee expressed its deep regret that the State Party had not invited the Reactive Monitoring mission as requested, and that no exhaustive impact assessments for this project had been undertaken, including the visual impact assessment requested by the Committee, to determine any and all impacts that the project may have on the Outstanding Universal Value (OUV) of the property, and thus whether and how these might be mitigated. It reiterated its request for the State Party to urgently complete and share with the World Heritage Centre the Visual Impact Study as soon as possible, and at the latest on 1 December 2017, and reiterated its request that the State Party invite a joint World Heritage Centre/ICOMOS Reactive Monitoring Mission to the property immediately after the announcement of the decision of the Honourable Supreme Court of Pakistan (see the full decision in Annex 1). The Committee considered that the highest priority must be given to considering how the Shalamar Gardens and their spiritual associations can be sustained alongside any necessary measures to satisfy the needs of a growing city, by setting out the precise and detailed...
nature of the potential impacts of the Orange Line Metro project on the OUV of the property, and whether and how mitigation measures can be undertaken.

The World Heritage Committee also reiterated the great need to adequately manage and effectively control encroachment and urban development in and around the property, and therefore further requested the State Party to immediately undertake setting studies and procedures in this regard, which will be taken into account when proposing an enlargement of the property’s buffer zone.

The Committee further requested the State Party to ensure the documentation of the conservation work undertaken and in progress at the Shalamar Gardens, together with any necessary archaeological inputs.

The State Party did not invite the mission in the course of 2016-2017, while the case concerning the Orange Line Metro was heard by the Honourable Supreme Court of Pakistan. In early December 2017, a final decision on the project was published by the Supreme Court of Pakistan, granting approval to the project – yet by that time, construction had already progressed significantly. The State Party invited the Reactive Monitoring mission following this decision, and the mission’s Terms of Reference were revised and finalised in view of the evolution of the situation (see Annex 1).

As the requested Visual Impact Assessment was received in January 2018, after the 41st session of the World Heritage Committee, and since no comprehensive Heritage Impact Assessment (HIA) has been carried out, in line with the ICOMOS Guidelines, to address not only the issue of vibrations, but also the visual and noise impacts, the full impact of the Orange Line Metro project is yet to be formally defined. It must also be noted that the HIA submitted by the State Party in April 2016 was not in line with internationally recommended standards for such studies, and hence failed to address the full range of impacts of the project. It is therefore not clear on which grounds the State Party concluded that the Orange Line Metro project would have no negative impacts on the OUV of the property, nor on what basis the Department of Archaeology of the Government of Punjab issued a Non-Objection Certificate (NOC) for this project.

1.4 JUSTIFICATION FOR THE MISSION

In July 2016, the World Heritage Committee examined the state of conservation of the Fort and Shalamar Gardens in Lahore. In its Decision 40 COM 7B.43 (Istanbul/UNESCO, 2016), the Committee requested “the State Party of Pakistan to invite a joint World Heritage/ICOMOS Reactive Monitoring Mission to the property at its earliest convenience, to examined the Orange Line Metro project and to discuss the same with the relevant Government authorities and to review and the management protection arrangements of the property”. Originally, it was recommended that the Committee urge the State Party to immediately suspend any further work within the section of the Shalamar Gardens and, as a matter of utmost urgency, to identify an alternative location beyond the buffer zone for this specific section of the Orange Line Metro. However, this Reactive Monitoring mission, which was to “identify an alternative location for this specific section of the Orange Line Metro beyond the buffer zone”, was not invited by the State Party in 2016 or 2017.

As outlined in section 1.3, the World Heritage Committee examined the state of conservation of the property at its subsequent session (Krakow, 2017) and requested again that the State Party to invite the joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property, immediately after the announcement of the decision of the Honourable Supreme Court of Pakistan, to examine the overall impact of the Orange Line Metro Train project on the OUV of the property and whether and how mitigation measures can be undertaken.

The joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the World Heritage property “Fort and Shalamar Gardens in Lahore” (Pakistan) was carried out from 23 to 28 April 2018, as requested by the World Heritage Committee in its Decisions 40 COM 7B.43 and 41 COM 7B.96 (see Annex 1). The Mission team was comprised of Dr Feng JING, Chief of the Asia and the Pacific Unit of the UNESCO World Heritage Centre (Paris) and Dr Alkiviades Prepis (Greece), Cultural Heritage Expert from the International Council on Monuments and Sites (ICOMOS). The Mission was accompanied by Mr Ijaz Ahmed, Director-General of the Government of Punjab’s Department of Archaeology, and his staff. The mission visited the two component parts of the property, namely the Lahore Fort and Shalamar Gardens along with other cultural heritage sites in Lahore city.
The Reactive Monitoring mission was tasked with the following:

1. Assess the actual impacts of the Orange Line Metro project on the Outstanding Universal Value (OUV) of the Fort and Shalamar Gardens of Lahore and thus discuss with the relevant authorities whether and how these might be mitigated, taking into account the decision of the Honourable Supreme Court of Pakistan published in December 2017;

2. In particular, assess the overall Orange Line Metro project, and especially consider the background to the project, notably:
   - the evolution of the project;
   - the consultations undertaken to define the route of the metro line;
   - how far impacts on the OUV of the property were taken into account in the decision-making process;
   - the Heritage Impact Assessment undertaken in 2016 by P. Rogers Ltd., and in particular whether the HIA fully took into account the OUV of the property and whether it is in line with the ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage properties;

3. Consider the scope of the construction work already undertaken and the impact of this construction and the entire project on the OUV of the property, and especially evaluate the actual impacts of the project on the property's OUV, along with any further potential impacts, using a holistic approach and taking into account the impacts of vibrations, noise and the visual impact on the main perspectives towards and from the property;

4. Assess what mitigation measures, if any, have been planned or could be implemented in order to counteract any actual or potential impact of the project on the OUV of the property;

5. Hold consultations with the relevant authorities of Pakistan, particularly the Directorate-General of Archaeology, Museums and Culture, as well as the management authorities of the Government of Punjab. In addition, hold consultations with a range of relevant stakeholders, including representatives of non-governmental organizations (NGOs), relevant scientists, researchers and experts.
2 NATIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF THE WORLD HERITAGE PROPERTY

2.1 NATIONAL LEGISLATION

The Antiquities Act of 1975 provided the legal basis for the protection of cultural heritage sites in Pakistan. In the case of Punjab, the administrative authority over the Fort and Shalamar Garden was handed down from the federal level to the Directorate-General of the Department of Archaeology of the Government of Punjab (DGoA) in 2004. As of 19 April 2010, an act was passed to amend the Constitution of the Islamic Republic of Pakistan (The Constitution ‘18th Amendment’ Act, 2010) which devolved all power to the Provincial Governments of Pakistan. The Concurrent List which registered all heritage sites in Pakistan was also abolished. Consequently, the Government of Punjab passed the ‘Antiquities (Amendment) Act 2012’ on 11 February 2012. The main distinction concerns the ownership of cultural heritage sites which now rests solely with the Provincial Government. The Punjab Special Premises rules passed in 1993 continues to exist with 256 registered sites. While the Antiquities Amendment Act provides for more comprehensive protection of the sites registered under this list, the Special Premises Rules only protects the facades of registered buildings.

Provisions have also been made for the constitution of an Advisory Committee headed by the Director-General of the Department of Archaeology and Museums. A further law was passed for the constitution of the ‘Lahore Walled City Authority’ to control any developments within the Walled City of Lahore.

Since the process of devolution is rather recent, no further amendments were made, although in the future it is envisaged to include a violations act to make any destruction a punishable offence and to develop a law for the district government which restricts building and infrastructure developments in proximity to World Heritage properties.

2.2 INSTITUTIONAL FRAMEWORK

The Directorate-General of Archaeology of the Government of Punjab (formerly the Department of Archaeology and Museums), which was in existence since 1993, has been given the sole responsibility, since the 18th Amendment of 2010, for the cultural heritage sites in Punjab and therefore the personnel previously employed under the Federal Department of Archaeology and involved in the other parts of Punjab have been merged with this Department. The number of staff has grown from 398 to 757.

A Steering Committee for Lahore Fort and Shalamar Gardens composed of high-level Government officials, stakeholders, academics, the Director-General of the DGoA, Punjab and UNESCO Office in Islamabad. It is headed by the Chairman of the Planning and Development Board and meets once a year to approve the work plans and budgets for all conservation and development projects at the properties, as well as non-development funds for staffing. A seven-member Technical Committee reviews and provides advice on all issues regarding the properties and meets as often as required. No work is carried out before their prior approval.

2.3 MANAGEMENT STRUCTURE

The DGoA falls under the administrative authority of the Department of Youth Affairs, Sports, Archaeology and Tourism, which in turn is under the Secretary of the Chief Secretary and the Chief Minister of Punjab. For details on the management structure of the Directorate, please refer to the organisational chart included in Annex 2.
3 IDENTIFICATION AND ASSESSMENT OF ISSUES AND THREATS

After the serious conservation issues faced by the Shalamar Gardens, which are described below, the second main factor directly affecting the setting, authenticity and integrity of the component site is the Management Plan, which is neither fully implemented nor effective. There is still no adequate management and effective control on encroachment and urban development around the property. The condition of the built environment around the Gardens is characterized by visual – environmental - functional impacts on the site and by the degradation of the living and working conditions of its inhabitants.

It is a matter of urgency to finalize the draft proposal for the Buffer Zone, in line with previous decisions of the World heritage Committee, and to enrich and strengthen the Management Plan of the site.

3.1 NATURE AND EXTENT OF THREATS TO THE PROPERTY

3.1.1 LAHORE FORT: ROYAL KITCHEN BUILDING AND NEW AUXILIARY CONSTRUCTION

(See Annex 8, Fig. 19, 20)

The Royal Kitchen or Shahi Bawarchi Khana, located at the backside of grand Alamgiri Gate, were always a neglected part of the Fort. It consists of a block of buildings around an inner courtyard. The three sides are consecutive halls, covered by hemispheric domes. On the fourth side, there are a number of closed rooms. The stables are a separate group, on continuation to the first.

The Kitchen was constructed during the reign of Emperor Shah Jehan. When the Sikhs took over the Lahore Fort, the Royal Kitchen was converted into a food storeroom, while used as a stable for horses. In 1849, the British converted it into interrogation cells and a jail, and the open verandas were closed with bricks, while new structures such as iron doors and beams were added, along with the construction of an upper storey. The building also suffered damages during partition riots, during which the beams windows and wooden doors were taken away. After the partition, the police department used the site as interrogation cells until late 1980s, when they were handed over to the Archaeology Department, and offices for the department were constructed.

The conservation and excavation of the complex started in 2015 and is currently underway, led by the Walled City of Lahore Authority (WCLA). The project aims at turning the much-ignored and dilapidated structures into a well-conserved touristic attraction, with technical assistance from Agha Khan Trust for Culture. The process began with excavations to reach the original ground level in 2016; meanwhile, detailed technical documentation (e.g. scanning, photography and videography) was also carried out. Works which have been carried out so far include: consolidation and strengthening of the existing structure; restoration of some of the collapsed /missing areas to strengthen the structure and to improve the functional quality of the enclosed space; laying of new flooring with lime and bricks; improvement of the roofing surface and drainage system. The project has been realized to high scientific standards for excavation, presentation of the authentic material on site and subsequent protective, conservation and restoration works.

To make the proposed interventions sustainable, and to give the previously neglected heritage “a function in the life of the community”, in line with the World Heritage Convention, the rehabilitated historic structure is intended to be re-used to provide night-time dining facilities, while the arched verandas are to become an art and history gallery, as part of the general policy to extend the visitors’ experience of the Fort into the night.

The restaurant would be open to paying customers after closing hours of the Fort, and in addition to fine dining it would also provide a night time guided visit of the Fort. The archaic ambience of the restored structure will also be supplemented by roof top seating and illumination of the selected areas of the Fort which would add to the experience of the patrons visiting the restaurant. On selected days and special occasions, the area will also host planned cultural events and shows contributing to a wholesome cultural experience in a world-class historic setting.
A separate structure, located at the former site of a building built during the 1990s and later demolished, has been erected to provide kitchen and toilet facilities. The mission visited the place and concluded that the additional new small building does not have negative impact or deduct from the values of the historical building. Rather, it contributes in integrating the whole complex into the needs of visitor’s management plan.

However, the mission wishes to underline that there is an urgent need for the WCLA to provide the World Heritage Centre with the plans of the project, along with a reasonable justification on the development of the restaurant function in the area of Imperial Kitchen and on the choice of the particular space for building infrastructure facilities. This should be done in line with paragraph 172 of the Operational Guidelines for the Implementation of the World Heritage Convention.

3.1.2 ORANGE LINE METRO PROJECT

BACKGROUND: EVOLUTION & CONTEXT OF ORANGE LINE METRO PROJECT

As mentioned in Section 1, the first step to the destruction of the perception of the south facade of Shalamar Gardens was made in 1999 with the complete loss of the two Hydraulic Tanks and the partial demolition of the third as a result of works to enlarge the 4-lane Grand Trunk Road (GT Road) into a 6-lane motorway. At that time, an alternative plan was possible: to shift the GT Road away from the Hydraulic Tanks and leave the space in front of the site for rehabilitation, rather than accepting a heavy traffic load that would become more burdensome in the future.

The World Heritage Committee, at its 23rd session (Marrakesh, 1999), noted the damage and requested the World Heritage Centre to organize a joint UNESCO/ICOMOS Reactive Monitoring mission. The mission recorded the destructions and the damage, and concerns were also expressed about the degradation of the surrounding environment of the Gardens and the critical condition of the ceiling of the Shish Mahal at Lahore Fort. As a result of these recommendations, the Lahore World Heritage property was put on the List of World Heritage in Danger at the 24th session of the World Heritage Committee (Cairns, 2000).

Regarding the Orange Line Metro Project (OLMP), the proposed route was to follow the GT Road. This project was planned in 2007, and implementation began in the summer of 2015, although no information was communicated to the World Heritage Committee via the World Heritage Centre, despite the provisions of Paragraph 172 of the Operational Guidelines for the Implementation of the World Heritage Convention. The mission was informed that, during the construction process of the OLMP, the State Party had missed opportunities to implement two other less damaging alternatives:

ALTERNATIVE NO1: PLANNING THE CONSTRUCTION OF UNDERGROUND STATIONS FOR THE SHALAMAR GARDENS AND PAKISTAN MINT STOPS

This solution would have allowed to shift the GT Road away from the site and, consequently, to construct the dual motorway beyond the remaining 3rd hydraulic tank. Had this approach been followed, any kind of visual and vibration impact on the site would have been avoided, while the noise and pollution impacts would only have been those of the dual motorway.

However, the Orange Line Feasibility Study, completed by international consultant MVA-Asia in 2007, recommended an elevated viaduct in front of Shalamar Gardens (see Feasibility Study – Final Report, p. 6-1). In 2014, the National Engineering Service of Pakistan (NESPAK) reviewed the Feasibility Study, proposed two options and prepared an Addendum to the Feasibility Study. In this Addendum, an elevated viaduct in front of Shalamar Gardens was recommended again.

In 2016, as requested by the World Heritage Committee, a Heritage Impact Assessment (HIA) was submitted, aiming "to examine the alignment, both elevated and cut and cover sections, in the context of 11 specific historical buildings which have become the focus of public concern. The task is to assess the nature and extent of any adverse and beneficial impacts that may result from construction and operation of the Orange Line Metro rail on these buildings and, where necessary, to recommend mitigation measures beyond those already included in the project design" (HIA, p. 5).

It is interesting to underline that, in section 6 (Baseline Conditions and Existing Impacts), no mention is made on the noise and pollution impact on the historical buildings (HIA, p. 21). Similarly, based on the proposal for the elevated rail line, the HIA concludes that: “The main gateway structure is the closest building to the Orange Line Train Track” -- although the entire south side of the component site is affected. Additionally, regarding the protection of the 3rd hydraulic tank, the HIA notes that “The
existing little piece of the huge water structures in-between the two roads is just nothing but a heap of dismantled and truncated brickwork”. As far as the process of construction of the metro line phase is concerned, the HIA concludes that there will be only temporary impacts (risk to fabric, noise, dust and vibration due to deep excavations), while during its operational phase, the high visual, noise and vibration impacts recognized on the entrance and front façade of the side, will be “permanent and cumulative but indirect” (HIA, p. 9).

It should be noted that for the Chauburji Gateway, a national cultural heritage site, special care was taken in the 2007 Feasibility Study, which foresaw that the track would go underground right after the station, passing underneath the monument area in Chauburji Square in tunnels created especially to avoid this important structure. A traditional mining method was recommended in this location (Feasibility Study – Final Report, p. 6-10). Also, regarding the Central Station - Interchange with the Green Line, it was remarked that “there are many settlement issues to solve with the considerable number of important and sensitive buildings all around this station, but modern tunnelling techniques could safely deal with these” (Feasibility Study – Final Report, p. 6-16).

It therefore appears that while a similar solution should have been possible for the Shalamar Gardens, it was never taken into account, even though the property had been on the List of World Heritage in Danger since 2000.

Eventually, even in the case of Chauburji Gateway, the final decision was changed and the proposal for an elevated track was approved. Similarly to the Shalamar Gardens, the 2016 HIA concludes that there will be permanent and high visual, noise and vibration impacts on the entrance and front façade of Chauburji Gateway, which are characterized as “cumulative but indirect” (HIA, p. 9).

In fact, of the six underground stations originally planned for the OLMP, out of a total of 26, only two were actually implemented, following the option proposed in the Addendum to the Feasibility Study, resulting in savings of about USD 400 Million for the State Party (Addendum, p. 1).

ALTERNATIVE N°2: PLANNING THE VIADUCT OUTSIDE OF THE PROTECTED AREA

In 2007, it was decided that the road in front of Shalamar Gardens was wide enough to accommodate the elevated viaduct in the central median. In the 2007 Feasibility Study, the alignment was slightly deviated “to avoid the main entrance building of Shalamar Gardens and an old tree next to the entrance” - but not avoiding two similarly ‘historical’ trees which were found just on the alignment and which were cut-off (ICOMOS Pakistan, Shalamar Gardens. Visual Impact 2015-2016, Fig. 1.06, p. 4, and Annex 8, Fig. 26). At the concept/detail design stage, NESPAK executed a wider curve in front of Shalamar Gardens. As a result, the distance of between main pier of the Orange Line and the south wall/perimeter has reached 29 m (95 ft) on southeast side, 22.8 m (75 ft) on southwest side, and 41.1 m (135 ft) from the entrance of Shalamar Gardens. Thus, the metro line lies within the 200-foot protective zone and was unfortunately endorsed by the Government of Punjab and the DoA, in violation of the Antiquities Act of 1975, which restricts all constructions within a distance of 200 ft of a protected site, while constructions on Government Land require special permission.

The mission is of the opinion that, even when the Shalamar Gardens and Pakistan Mint stations were already constructed and the elevated viaduct was therefore inevitable, it would nonetheless have been possible for the State Party to develop a different alignment, even further away from the south side of the Gardens, after consultation with the World Heritage Centre and the Advisory Bodies. This solution would have resulted in the creation of a “safety distance” from the Shalamar Gardens, without any adverse impact on OUV, thereby eliminating the visual and other impacts from the interior (as in this case increasing the distance from the property, is resulting in a reduction of the visual horizon from the interior) and mitigating the noise and vibration impacts.

The last joint UNESCO/ICOMOS Reactive Monitoring mission to the Fort and Shalamar Gardens in Lahore took place between 27 April and 1 May 2012. In the mission report, it is noted that “No new threats have been identified in the current mission” (p. 8). It is obvious that the mission was not informed in time about the OLMP or the fact that its possible visual, noise, vibration and pollution impacts could threaten the OUV of the property.

At that time of the mission, the property was still on the List of World Heritage in Danger. Based on the findings of this mission, the World Heritage Committee decided, at its 36th session (St Petersburg, 2012), to remove the property from the List of World Heritage in Danger due to the successful measures that had been taken to remove the threats identified at the time. Additionally, it should be noted the State Party made no mention of the Orange Line Metro project in the second cycle of
Periodic Reporting for the Asia and the Pacific region which concluded in 2012 although several sections of the questionnaire invited the State Party to report on any on-going or planned major projects which have an impact on the OUV of the property.

**PROCESS: THE ORANGE LINE METRO PROJECT**

On 29 October 2015, the World Heritage Centre requested the Government of Pakistan to verify information in media reports about the Orange Line Metro Project in Lahore and requested the State Party to submit detailed information on the project, in line with paragraph 174 of the Operational Guidelines. In the state of conservation report submitted in January 2016, the State Party clarified that “to solve the public transport issue in Lahore, the Government of Punjab commissioned the construction of the Lahore Rapid Mass Transit System. Works have now been initiated on the Orange Line, the second of four transportation lines, which will pass by Shalamar Gardens on elevated viaduct girders. The DOA has been closely following the development works and held several meetings with the executing agency to mitigate the impact on the property. A comprehensive study on the impact of vibrations on the monuments was carried out and concluded that there would be no mentionable impact. In addition, the Orange Line has been subject to a HIA conducted in April 2016, in order to evaluate its possible impact on historic heritage buildings along the route and Shalamar Gardens. Furthermore, the HIA concluded that the possible negative impacts can be mitigated; visual impacts can be minimized and are acceptable and the metro line offers opportunities to improve conservation and interpretation of heritage sites. Following these conclusions the endorsement of the project has been given by the Government of Punjab.”

However, as mentioned earlier, no detailed information on the project was provided to the World Heritage Centre for review by the Advisory Bodies. It was only during the Reactive Monitoring mission of April 2018 that the Mission Team was informed of the 2007 Feasibility Study and that other relevant documentation was shared with the mission.

Although the mission attempted to clarify on what basis the Department of Archaeology of the Government of Punjab issued an Non-Objection Certificate (NOC) for the Orange Line Metro project, no clear evidence was provided to allow an understanding on what guided their Advisory Committee to grant the approval. As stated in the 2016 Master Plan, the area around the Shalamar Gardens is rich in archaeological remains (p. 62, Figure 5.3: Plan showing general layout of Mughal period).

According to the documentation provided by ICOMOS Pakistan, excavations prior to the construction of the foundation for the pier located near the 3rd hydraulic tank were undertaken in such a manner that they destroyed archaeological remains and/or buried structures. Despite the visible presence of below-ground Mughal Era brickwork/structure, which was likely part of the Shalamar Gardens’ hydraulic system, the remains were exposed and damaged/destroyed (Shalamar Gardens: Violation of the conditions of the Supreme Court Judgment by the Punjab Government and the destruction of the subsurface hydraulic system, particularly photos on pp. 33–39, and Annex 8, Fig.26)).

Similarly, on the opposite side of the road, south-east of the 3rd hydraulic tank, the Shalamar Hydraulic System connects to Inayat Bagh, recognized on a still standing Mughal pavilion embedded among buildings (see Annex 8, Fig. 44). No special information was given about this building and its significance is not reflected in any survey plan or report of the site. However, NESPAK plans to “beautify” the opposite site of the south entrance by building a replica of this building on the opposite corner of the block and unifying them both by a wall 24 feet high, decorated with traditional designs (see Annexure – 04, ppt: Architectural Improvements as per Supreme Court requirements (Shalamar Garden and Annexure – 05, Wall on Southern side of Shalamar Gardens). Beyond the “stage design perception”, which aims to beautify the opposite side of the motorway. The proposed construction of a replica of a Mughal era building that still exists nearby is inappropriate, and the proposed building of a solid wall in this position will create a single vertical curtain, which will reflect the noise from the motorway and thereby increase the noise impact on the Shalamar Gardens.

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1 There is sufficient literature to support the idea that it is part of the Shalamar Hydraulic system. The fragment above is likely a surviving portion of Inayat Bagh and, according to the General Archaeology Department, Anguri Bagh is behind these privately-owned buildings. Connected to the great canal system (Shah Nahar) designed by Ali Mardan Khan, water was channelled from the Shah Nehar through Anguri Bagh to Inayat Bagh before emptying north into Shalamar Bagh via the Shalamar Hydraulic Tanks (see: ICOMOS Pakistan, Shalamar Gardens: Visual Impact and Orange Line Metro Project construction status on 23rd April 2018, pp. 38-39 and Fig. 1.51.0).
PROBLEMS IDENTIFIED

The problem of setting, of visual acceptance and understanding of the artistic and aesthetic accomplishments of the Mughal civilization, and the spiritual values of the Shalamar Garden is much worse than what is described in the received in the World Heritage Centre out-of-date documentation about the Orange Line Metro Project (alignment plans of the 2007 study). The Orange Line Metro is already a reality and there is no alternative, with obvious and very hard visual and noise impacts, perceptible even from the second and third interior terraces. Additional air pollution impact causes the GT Road heavy traffic.

IMPACT ON THE OUTSTANDING UNIVERSAL VALUE

In the statement of Outstanding Universal Value (OUV) for the Fort and Shalamar Gardens in Lahore, in particular, criterion (iii): “The design of the monuments of Lahore Fort and the features of the Shalamar Gardens bears a unique and exceptional testimony to the Mughal civilization at the height of its artistic and aesthetic accomplishments, in the 16th and 17th centuries. Also, the wording “great influence in subsequent centuries on the development of artistic and aesthetic expression throughout the Indian subcontinent” was used in criterion (ii).

The Reactive Monitoring mission conclude that the integrity and authenticity of the property and therefore its OUV is threatened by the construction of this new Orange Line Metro, which would pass by Shalamar Gardens on elevated viaduct girders, within 30m of the Gardens’ towers and immediately above the only remaining water tanks of the Shalamar hydraulic works. The adverse impact on the attributes of the Shalamar Gardens which contribute to the OUV of the property is evident.

It should be recalled that during the 41st session of the Committee, the World Heritage Centre and the Advisory Bodies (ICOMOS, ICCROM) recommended that, “taking into consideration: (i) the impacts of the ongoing construction work on the setting and integrity of the Gardens; (ii) the absence of a comprehensive management mechanism which can control and monitor urban encroachment as well as the related development projects in the vicinity of the property; and (iii) the absence of any mitigation measures proposed by the State Party, it is recommended that the Committee immediately inscribe the property on the List of World Heritage in Danger, in accordance with Paragraph 179(b) of the Operational Guidelines.” The current Reactive Monitoring mission confirmed that the adverse impact of the ongoing construction work of the Metro Line on the property's OUV, its setting and integrity.

VISUAL IMPACT

The 2016 HIA refers to “direct visual impacts of the development on views as a result of intrusion or obstruction (...) This includes the view of passerby, from street level and from elevated train level, and visitors inwards to the heritage site and the view outwards from the site or buildings towards the elevated sections of the alignment.” It recognizes that “Visual impact is relevant at six of the 11 buildings”, while Shalamar Gardens are NOT mentioned particularly.

It is also characteristic that while 2016 HIA mentions that “Two points are of importance to assessing visual impacts: firstly, the height of the elevated track in relation to the view-lines to and from the heritage sites, and secondly, the current Visual Character of the heritage in its setting”, the general conclusion is that “Views into heritage sites from some points at street level will be unavoidably framed beneath the elevated viaduct, the bottom of which will be 12 m. above the ground. Views of heritage from the elevated train itself will be excellent” – the visual impact from the interior of Shalamar Gardens, again, is NOT mentioned particularly (HIA, page 34).

Irrespective of the above conclusions of the 2016 HIA, the mission found that the view from both sides of the Orange Line Metro viaduct to the south façade of the Shalamar Gardens is definitely affected. The viaduct passes in such a close distance to the south wall of the Gardens, that no measure can eliminate the negative effect on them (see Annex 8, Fig. 27, 28).

It is true that the final choice of the “U-shape” viaduct system reduces the visual impact in comparison to the alternative Conventional MRT Guideway (RLMTS Orange Line Feasibility Study – Final Report, page 10-3, Fig.10-1 and page 10-5, Fig.10-2). However, we have to take into account that the height of the passing-by train will be about 3,0m more above today’s top flange construction.

Actually, in the present state of affairs what dominates on site is not the Gardens facade, but the metro viaduct, that is, a modern structure for satisfying the needs of the growing city of Lahore.
Consequently, the Orange Line Metro has definitely altered the authenticity and integrity of the exterior appearance of Shalamar Gardens.

Additionally, the mission investigated that the viaduct has a similarly definite negative visual impact also from the interior of the site -- even from the third, Lower Terrace of the Gardens! (see Annex 8, Fig. 30, 31, 32, 33)

NOISE IMPACT

It is evidence that the noise pollution, caused by today’s vehicular traffic on the GT Road, is very high, even if the latter is shared in two different direction motorways. It is characteristic that the members of the mission were not possible to hear one the other just before the south entrance of the Gardens!

According to the measurement results investigated by the mission on the noise sensors installed by NESPAK inside the Gardens on the opposite side of the Perimeter Wall, the noise level is around 76 dB at about 12 o'clock in the morning, which is high, not adequate and extremely annoying for safeguarding the “Paradise environment” and the spiritual atmosphere inside the Gardens.

From the World Health Organization (WHO) it is reported that the sleep disorder for a person is increasing when the noise level of the environment is around 35 dB. In hospitals, the level should not exceeded 30 dB in the patients' rooms, while in schools, inside the rooms, the level should not exceeded 35 dB during the course in order to be able to teach. According to building regulations, the maximum permitted noise levels in music stores is 80 dB, while in entertainment centers is 100 dB.

The mission investigated traffic noise impact even up to the Middle Terrace of the Garden.

Consequently, the NESPAK data are referring to the noise level caused by the existing vehicular traffic on the GT Road. One should take under serious consideration for the future state of preservation of the site the following factors:

a) The additional noise load, which will be caused after the Orange Line Metro will start operating, and, which will overcome the already overloaded noise limits. The final choice of the “U-shape” viaduct system reduces the noise impact in comparison to the alternative Conventional MRT Guideway. However, the operating metro train will develop additional noise, propagated out without obstacles to dissipate.

b) The fact that one metro train will pass every two minutes to each direction, meaning that every one minute one metro train will pass in front of Shalamar Gardens.

POLLUTION IMPACT

It is well known that Lahore has some of the worst air quality in the world. Lahore’s industrial belt contains everything from brick kilns to pharmaceutical plants, which belch out toxic pollutants, while millions of low fuel-efficiency cars ply the congested roads.

The Grand Trunk Road is the main 6-lane trunk route of the city north-east to north-west carrying all forms of heavy traffic. Just an open strip apr.10 m. wide separates the road from the external wall of the Garden.

The 2007 Feasibility Study, analyzing the existing physical environment and especially the air quality, notes that: “The air is polluted from the vehicular emission of exhaust gases like Carbon Monoxide (CO), Nitrogen Oxide (NOx) and Sulphur Oxide (SOx), and Particulate Matter (PM$_{10}$) and also due to open construction site pollution” (page 16-6).

Current on-site measurements were summarized in Table 16.2 (page 16-7) and were compared against the current adopted international standards as well as Pakistan Environmental Quality standards (Table 16.3 – which was actually replaced with a similar one by the Addendum, page 13). According to the results: “All monitored parameters were well within local and international standards, except airborne particulates (PM$_{10}$, which were several times higher” (2007 Feasibility Study, page 16-7).

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2 PM - Particulate matter (also called particle pollution) is the term for a mixture of solid particles and liquid droplets found in the air. PM$_{10}$ stands for inhalable particles, with diameters that are generally 10 micrometers and smaller.
Indeed, the measurement for the airborne particulates in Shalamar Gardens was **460 μg/m$^3$ (per hour)**, when the international standards are: 150 μg/m$^3$ (per 24 hours) for US EPA, 70 μg/m$^3$ (per 24 hours) for the World Health Organization, 200 μg/m$^3$ (per 24 hours) in Japan and **150 μg/m$^3$ (per hour)** in Pakistan.

The most serious form of pollution is suspended particulate matter (PM) from vehicle emissions and the dust. Besides the linked particle pollution exposure to a variety of health problems, serious PM can stain and damage stone and other materials, including statues and monuments. Some of these effects are related to acid rain effects on materials. Not all acidic deposition is **wet**. Sometimes dust particles can become acidic as well, and this is called **dry deposition**. When acid rain and dry acidic particles fall to earth, the nitric and sulfuric acid that make the particles acidic can land on statues, buildings, and other manmade structures, and damage their surfaces. The acidic particles corrode metal and cause paint and stone to deteriorate more quickly. They also dirty the surfaces of buildings and monuments. Nitrogen dioxide has serious effects on colours and materials as do ozone and hydrogen sulphide which bleach the colours of frescoes and alter pigmentation. The fumes and dust created and the high volume of traffic along the southern periphery of the site result in encrustation and corrosion of materials (Similar remarks were also made in the UNESCO-Islamabad Master Plan of 2006, page 105. See, also: Adeeba Abdul Raheem - Muhammad Akram Tahir, *Mughal architecture under the cloud of demolition: Environmental effects on monuments*, Journal of Building Appraisal, June 2008, Volume 4, Issue 2, pp 103–114).

For the current on-site air pollution impact no information was provided by the State Party authorities during the mission. However, air pollution impacts on the Shalamar Gardens Perimeter Wall decoration are evident and are presented in par. 3.3.2.

From photos provided in the ICOMOS - Pakistan report it appears that during the excavations for the construction of the basement of the pillars not all the necessary deterrent measures regarding pollution impact were in place.

The construction of the Orange Line Metro rail just before the south elevation of Shalamar Gardens is a fact, and it is impossible at this stage to shift the alignment of the viaduct further away. Additionally, the permanent and long-term pollution from fumes and dust created by the high volume of traffic along the southern periphery of the site result in encrustation, corrosion and deterioration of materials.

The consequences of these facts are the very serious visual and noise impacts on the site, along with the vibrations and air pollution which alter the historical natural and built environment both inside and outside the site. The Shalamar Gardens were laid out as a Persian paradise garden intended to create a representation of an earthly utopia in which humans co-exist in perfect harmony with all elements of nature. Therefore, the elevated Orange Line Metro viaduct, in combination with the environmental effects from the heavy vehicle traffic on GT Road, doubtlessly has a negative impact on the OUV of the property as defined at the time of inscription, and notably its integrity and authenticity.

** Vibrations Impact **

The 2016 HIA ascertains that “the average operating speed of the train for Orange line project will be reduced between 38km/hr to 42km/hr whereas the maximum operating speed will be less than 80km/hr. Also, that from a study of long terms impacts from vibrations arising from elements of the transport system, carried out by Pancholi et al in Ahmedabad, India, it was found that “the appropriate vibration limit for a historic building was in the range of 3-12.7 mm/sec, with 3 mm/sec considered a safe limit criteria for historical and fragile buildings for continuous traffic vibration point of view (Pancholi et al, 2014). This assessment is supported by the German Standard DIN 4150 Part 3-1999 "Structural Vibration in Buildings", which states that the maximum vibration velocity at the foundation level of the heritage structure shall be less than 3 mm/sec. Based on the theoretical 2D FEA model of pier-ground system of light train viaduct system similar to Orange line project, it is concluded that beyond a distance of 10-12 m (32 – 39.4 ft) from the main pier of rail the ground born vibrations will be negligible at 0.3 mm/sec, a measurement far below that recommended by studies and industry standards.

On this basis, no adverse impact is predicted to historic fabric located more than 10 m from the source of vibrations from operation of the trains” (HIA, pp 33-34).

The members of the mission in a meeting held on 27.4.2018 at the PMA office, Lahore, asked for more detailed technical data regarding the OLMP construction and its impacts.
In the short time of the mission visit it was not possible to check the effects of the vibrations caused up-to-date by the Orange Line Metro construction works on the various elements/buildings of the Gardens. The mission found on site operating typical vibration sensors, placed on the base of the opposite side of the south Perimeter Wall. According to data provided by ICOMOS - Pakistan potentially affected by vibrations is the 3rd Hydraulic Tank, the base of which is very close to the nearest pile cap and is not effectively protected except with a thin sheet of polystyrene, as barriers for the reduction of operation phase transmission of vibration (Shalamar Gardens: Violation of the conditions of the Supreme Court Judgment by the Punjab Government and the destruction of the subsurface hydraulic system, Fig. 1.16, 1.17 on p. 17)

However, in order to obtain a clear and accountable picture of the impacts of continuous occurring vibration from the metro train traffic, long-term collected data should be made available, and especially after the Orange Line Metro start operating. It is only in practice that the accuracy and truth of the theoretical “Vibration analysis of viaduct – Evaluation of effects on heritage buildings” provided in ANNEXURE – 06 of the technical information can be proven.

3.2 MANAGEMENT EFFECTIVENESS

A committee has been set up to work on a proposed modification of the boundaries of the property and its Buffer Zone, but there is no final draft proposal to date.

The World Heritage property is protected under the Antiquities Act of 1975 and was administered until 2005 by the Department of Archaeology of Pakistan. At that time, management responsibility for the property was delegated from the national level to the provincial level, and the Directorate-General of Archaeology of the Government of Punjab took on the overall responsibility for property management. The DGoA is working within the guidelines laid down in the two Master Plans established for Lahore Fort and the Shalamar Gardens, and with project financing made available by the Government of Punjab in a “Five-Year Programme for Preservation and Restoration of Lahore Fort” and a “Five-Year Programme for the Preservation and Restoration of the Shalamar Gardens” launched in 2006-2007. The DGoA is also being supported in its management efforts by a Steering Committee to guide implementation of planned projects, a Technical Committee to supervise conservation activities and to develop a “conservation plan” on the basis of priorities established in the Master Plans, and a Punjab Heritage Foundation to attempt to provide a permanent source of funding.

The addition of this property to the List of World Heritage in Danger in 2000 highlighted many threats to the Outstanding Universal Value of the property, its integrity and authenticity. These include the ongoing degradation of tangible features of the property, the insufficient ability to monitor and control urban encroachments on and near the property, and the insufficient ability to control the actions of other agencies which could impact on the Outstanding Universal Value of the property.

The key components of the management response to sustain and protect its Outstanding Universal Value, integrity and authenticity, and to address the above mentioned threats include efforts to:

(i) extend the protective boundaries of the inscribed area and its buffer zone;
(ii) complete and implement the Management Plans for Lahore Fort and Shalamar Gardens;
(iii) strengthen local community and institutional awareness of the values of the property and the primary sources of its vulnerability; and
(iv) improve co-ordination mechanisms among all stakeholders whose actions could affect the Outstanding Universal Value of the property, in particular national and local authorities involved in carrying out public works and promoting and managing tourism on the property.

These should be carried out in such a way that they adequately address the concerns expressed by the World Heritage Committee at its previous sessions and in the present report.

Through its assessment of the Orange Line Metro project, the mission observed the lack of coordination amongst different stakeholders (national and local) in planning and operating public works at the property and in controlling development that could impact adversely on OUV.
3.3 Status of the Property, Boundaries, Regimes of Protection and Territorial Planning

3.3.1 Buffer Zone

The mission notes the lack of awareness by the local community of World Heritage commitment, its benefits and constraints, and of positive and celebratory measures.

The mission found that both the justification and function of a protective buffer zone – and the World Heritage property as a whole - is still unclear for the stakeholders, especially among the residents, local stakeholders and the local authority. It is urgent to clarify the constraints and opportunities of World Heritage status regarding both the property and its buffer zone. The adoption of the Draft buffer zone border modification and the process of elaboration of the Urban Planning Documentation offer a very timely opportunity to inform about the World Heritage management framework.

A priority need is to reinforce the role of the municipality in the decision-making process and in all training and capacity-building programmes for the planning and management of the enlargement protective buffer zone. The mission urges the State Party to initiate raising awareness of the World Heritage benefits and commitments among the local authority and all the citizens and stakeholders.

3.3.2 Lahore Fort: Management Plan & Buffer Zone

The Walled City of Lahore Authority (WCLA), with technical assistance from Agha Khan Trust for Culture (AKTC), is responsible for carrying out management and conservation work in Lahore Fort. The growing awareness about the historic and artistic importance of the property has led to a number of key partnerships, notably with the Government of Punjab, the WCLA, the Norwegian Embassy and the World Bank.

The existing management plan seems to function well for the Lahore Fort component. At the entrance of the complex (Alamgiri Gate), new reception and service areas have been constructed. Visitors have the opportunity to explore the complex with the help of small electric cars, open to the side. The new signage of the buildings is satisfactory. One of the new initiatives, which have a great response from the public, is the “History by Night” tour of the Lahore Fort on weekend evenings, which includes visits to selected areas of the Fort culminating in a small performance and refreshments for the participants (see Annex 8, Fig. 22, 23).

The number of tourists increased from 1.554 million visitors in 2016 to 2.64 million in 2017. Of these, some 2 million were foreigners.

3.3.3 Lahore Fort: Royal Kitchen Building and General Rectorate of Archaeology Educational Programmes

Due to the establishment of the General Rectorate of Archaeology’s offices in the area of the Royal Kitchen building, a network of utility services is already in place and in use. The mission was pleased to be informed that seminars are being developed in the Pakistan Institute of Archaeological Training and Research, which is established on Lahore Fort, in General Rectorate of Archaeology. A training institute has been rehabilitated and state-of-the-art drainage arrangements are proposed to service this previously neglected section of the Lahore Fort. They target young specialists and crafts people and address issues of archaeology, history of art, architecture and conservation, restoration, protection and management for the country's cultural monuments, and particularly the World Heritage property (see Annex 8, Fig. 58).
3.4 POSITIVE OR NEGATIVE DEVELOPMENTS IN THE CONSERVATION OF THE PROPERTY SINCE THE LAST REPORT TO THE WORLD HERITAGE COMMITTEE

3.4.1 SHALAMAR GARDENS

SHALAMAR GARDENS: INTERIOR

The entrance made by the British in the centre of the south wall of the site, and the Royal Resting Champers inside the Aramgah-E-Shah Jahan are under an urgent need of restoration works. The interior surface of the Perimeter Wall has in the most part visible effects of moisture. Decreasing moisture is due to the improper management of rainwater that infuses the upper part of the walls and cause peeling of the lime plaster. More serious is the rising moisture, due to the higher level of the surrounding roads, and the consequent water penetration, in combination to acidic dust particles dry deposition, causing deeper and greater damage, resulting to efflorescence and peeling of the lime plaster, collapse of the mosaics from the recessed panels, and damage to the brick fabric (hollow spaces created by deep nicking in mortar). Salt attack is prominent: Dissolved salts and gases in the air react with the plastered surfaces and have greatly damaged the facades. The phenomenon is continuous and the General Direction of Archaeology has made restoration works on certain extend of the lower parts of the brickwork, which, however, are still to be plastered (see Annex 8, Fig.35, 36).

The mission found in critical conservation and restoration state significant elements of Shalamar Gardens, such as the two corner towers (Burj) and the historical gateways on the Lower Terrace sides, providing an image of abandonment (see Annex 8, Fig.37, 38). Restoration works are in progress at south-east corner Burj of the Upper Terrace, which the mission was unable to visit.

One of the most serious problems faced by Shalamar Gardens is the visual disturbance by constructions in the surrounding area. They far outstrip the height of the Perimeter Wall and create a negative visual effect, which in many cases dominates over the image of a “Paradise” Mughal garden. These inadequate constructions are described in details in the next paragraph.

The network of pavements leading people through the Gardens are laid in brick on edge in decorative patterns. Sections of pavement are identified as original. Great parts of the pavement on the Sawan Bhadon pavilions are extremely fragile and in very poor condition. Sections of missing pavement have been roughly covered with cement layer, already partially destroyed (see Annex 8, Fig.36).

The wooden decorated ceilings on Aiwan pavilion have an immediate need for maintenance and restoration. The red sandstone sides on the communication scales between the Middle and Lower Terrain need to be cleaned from graffiti and restored. The retaining wall between the Middle and Lower Terrain, on both sides of Chini Khana, has been repaired but not yet coated; however, moisture problems are evident on it. The pavilion wall at the northern end of Lower Terrain needs urgent repair, while its marble coating requires cleaning by graffiti (see Annex 8, Fig. 33, 36).

SHALAMAR GARDENS - EXTERIOR ENVIRONMENT

The Reactive monitoring Mission Team was able to visit the perimeter street of Shalamar Gardens three times (morning, afternoon and evening).

The most important positive fact is that the open Naqqar Khana Complex on the south-eastern outskirts of Shalamar Gardens has been acquired by the General Direction of Archaeology, where a suitable reception area for visitors has been created. Its first section, surrounded by a protective wall, includes an open-air parking and kiosks with the visitor reception functions. In the second section there is the main entrance to Shalamar Gardens through the south-eastern historical gateway. This arrangement looks functional and facilitates access to the site for both vehicles and pedestrians. It, also, leaves some free space ahead of the entrance area (see Annex 8, Fig. 28).

Another positive measure is the removal of rough constructions placed on the outside of the east side of the Perimeter Wall and the raising of protective metal rail on the road along these parts of the wall (see Annex 8, Fig. 40).

However, the chronic problems of water penetration, causing rising moisture, which systematically deteriorates the brick wall construction and its outer lime coating, as well as the deteriorating impacts
from the air pollution, remain apparent. In addition, a large part of the external waterway along the outside façade of the Perimeter Wall, that was part of the Mughal hydraulic system of the Gardens, has already been destroyed (see: 2016 UNESCO Islamabad Master Plan, p.62, fig. 5.3: Plan showing general layout of Mughal period). The historic gateways to Lower Terrain are abandoned, buried into the ground (because of the elevated perimeter road - its level varies from 0,90m. to 1,80m. approximately) and facing serious problems (peeling of lime plaster, collapse of mosaics from the recessed panels, decolorizing and collapse of mosaics from the recessed panels due to pollutants and deterioration of brick fabric). Under the same crucial condition are the corner towers (Burj) of the Lower Terrain (see Annex 8, Fig. 37, 38).

The general impression of the mission regarding the existing condition of built environment on the opposite side of the perimeter road is that it is non-adequate to the historical and artistic significance, as well as to the spiritual associations of Shalamar Gardens, as a World Heritage Site.

Contemporary structures, most of which are visual evident from inside the Gardens, can be grouped into:

- buildings: houses in various quality construction materials and in uncontrolled heights, with uncoated facades or neighbourhood masjids with their high minarets, blocked between houses;
- metallic constructions: high cell phone antennas, solar water heaters, electric power transmission or power transformer columns, gas stations, cages for bird breeding;
- plastic barrels (in bright blue or black) mounted on the rooftops of the houses to heat the water by the sun / big scale plastic banner advertising (see Annex 8, Fig. 34-38).

The area close around the Garden is built up with middle, lower middle and low income community and small commercial shops - all living under difficult conditions. Some of the properties have legal ownership however encroachments into the road have resulted in buildings and houses coming even closer to the wall of the site. Several abandoned houses were found, while in many cases interventions of renovation - modernization of their buildings by the inhabitants themselves (with heterogeneous building material) have been made. Some large open spaces were identified.

Pedestrian and vehicular traffic is uncontrollable to every direction and is particularly highly loaded on the west perimeter road (College Road) which is a major access road to the residential and commercial settlements towards the north and west Shalamar Gardens. A big number of vertical roads joint the perimeter road and other perimeter streets.

Finally, on the land part which is attached to the Gardens from the west side, there is a mixture of constructions and functions (historical buildings, open cultivated areas, parking places, MCL garbage skips etc.), while its’ main front side on the GT Road is covered by roughly made shops (see Annex 8, Fig. 38-40).

3.4.2 LAHORE FORT

LAHORE FORT: SURROUNDINGS – BUFFER ZONE

- One of the most important measures that have been implemented is undoubtedly the removal of the intermediate road from before Lahore Fort (on its north and north-east side) and the shift of vehicle traffic to the peripheral road. This has made it possible to create a truly enormous green and recreation area for the citizens and, at the same time, to implement a part of the future buffer zone for the property. Removing vehicle traffic created a clean filtered air zone in this area which contributed to the reduction of noise and of the long-term effect of car pollutants on monumental buildings. It contributed to the elimination of any vibrations, as well (see Annex 8, Fig. 8).

- Impressing lighting of the Hazuri Bagh complex has achieved, which attracts hundreds of visitors during the “Lahore Fort by Night” programme (see Annex 8, Fig. 22-23).

- The Walled City of Lahore Authority (WCLA) with technical assistance from Agha Khan Trust for Culture (AKTC) is working on physical and socio-economic baseline surveys for developing the Draft buffer zone project around the rest areas surrounding the Fort. The southern and eastern sides are particularly affected by the non-controlled development (see Annex 8, Fig. 5-6).
- Already a major work has been carried out with the basic conservation of the Perimeter Walls, the cleaning of the land zone next to them, the removal of illegal constructions and the raise of protective railing alongside.

LAHORE FORT: EXISTING STATE OF CONSERVATION OF THE MONUMENTS

The visual effect from the disturbing structures in the surroundings is not noticeable from inside the Fort because the level of the yards and buildings is higher and the visual horizon here is lowered, as the high Perimeter Wall encompasses the property.

The general impression of the mission is that the complex is kept in good condition while at the same time conservation and rehabilitation works are in progress. Inside the Fort, extensive space cleaning and removal of undesirable plant sprouts have taken place. All this allows for a comfortable visit to the monumental site (see Annex 8, Fig. 7).

More analytically:

a) Akbari Gate has long-term effect of moisture on the lime coating and on brickwork, especially in its lower zone. There is an immediate need for conserving the remarkable interior fresco decoration, which is discoloured and faded (see Annex 8, Fig. 9)

b) The courtyard in front of Diwan-e-Aam has a particularly well-tended garden, equipped with explanatory signs, seats, garbage bins. The exterior of the building is in very good conservation status. In the interior, the main tasks of conservation and restoration of the rich lime plaster decoration are in progress (see Annex 8, fig.10).

c) Doulat Khana e Jahangir, externally keeps a good state of preservation, but there is an urgent need for conservation its interior stucco decoration (the colouring and gold leaf coating) (see Annex 8, Fig. 11).

d) Diwan-e-Khaas faces problems with the marble covering of the ceiling due to water penetration. Also, older metallic reinforcements of the columns need to be replaced, as having been rusted (see Annex 8, Fig. 12).

e) The corner tower (Burj) at Diwan-e-Khaas faces long-term static problems, which have previously been addressed by tie-railing around the building. In neighbouring buildings, the same phenomenon applies to the reinforcement of their superstructure. Humidity results are evident in the lower parts of the brick-walls fabric, as well as on original wooden lintels over door openings. There is an urgent need for conservation of the interior stucco and fresco decoration (the colouring and gold leaf coating) (see Annex 8, Fig. 13).

f) In Sheesh Mahal the outside wall enclosure faces strong problem of rising humidity. At the entrance pavilion: there is immediate need for conservation of the frescoes, while work has started restoring the wooden ceiling (see Annex 8, Fig. 14). In the inner courtyard, the good state of preservation of the exterior of the building provides to the visitor the measure of magnificence and elegance that characterized the architecture of Mughal civilization on this little masterpiece. The ornate white marble pavilion is inlaid with pietra dura and complex mirror-work of the finest quality. However, the interior decoration of the building is still facing serious problems: detachment and deterioration of wooden ceilings (possibly due to leakage from the roofs), frescoes peeling and scratching, and walls graffiti. In the central area (aiwan) the mirrors used as decorative materials along with marble in Shah Jahan's period have lost their grace. The pieces of mirrors in the mosaic work have tumbled due to loss of binding strength with the base material or the transparency has been affected greatly due to different pollutants, particularly dust particles. In general, there is still a big amount of high specialized work to be done so that the monument regains its original glamour and rich decoration. Static problems of the marble covering of the accompanying buildings are under monitoring (see Annex 8, Fig.15-17).

g) The largest and most important work in progress on Lahore Fort is the conservation of the western section of the famous Picture Wall which is considered as the world's largest mural and tile mosaic wall (442m long). It was exquisitely decorated with glazed tile and faience mosaics, embellished brickwork, filigree work and frescos during the Mughal period in the reign of Jahangir in 1624 AD and completed under Shah Jahan's reign in 1632 AD (see Annex 8, Fig. 18).
This project was initiated in November 2016. Earlier, in September 2015, the documentation of the Picture Wall was started with financial support from the Royal Norwegian Embassy and the Aga Khan Trust for Culture and facilitated by WCLA. Foreign experts on conservation are involved in this project. So far, an accurate highly detailed scaled architectural documentation using electronic distance measurement devices has been completed, as well as high resolution rectified photography depicting the walls present condition. The site has also been recorded as part of a demonstration for 3D laser scanning.

Following archaeological excavations, the original base level of the walls was revealed, below the existing level of the yard, and the original façade of the wall appeared, the brick fabric of which was restored. A perimeter drainage system was constructed to address water penetration problems. Work is in progress for the restoration of the lime mortar coating and the exceptional mosaics in the recesses that adorned the wall. Pigeons which use as nests the openings on the wall surface are one of the permanent dangers for the decoration. Special measures for their removal should be taken, before finishing restoration works.

h) Hazuri Bagh and Badshahi mosque (see Annex 8, Fig. 21-23)

The Badshahi Mosque, commissioned by the sixth Mughal Emperor Aurangzeb in 1671 and completed in 1673, is the second largest mosque in Pakistan and South Asia and the fifth largest mosque in the world. Epitomising the beauty, passion and grandeur of the Mughal era, it is Lahore's most famous landmark and a major tourist attraction. Visiting Hazuri Bagh and Badshahi mosque in the evening, when everyday guests were lacking, was truly enchanting. The conservation status of the monuments is excellent. From the sense of the evening paradise garden in Hazuri Bagh, impressively illuminated, one passes to the transcendence of the amazing space and calm majesty of the architecture of Badshahi mosque, which acts as a material intermediary for the transition to a metaphysical sphere. Such feelings can be born only by masterpieces.
4 ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

4.1 THE OUV AT THE SHALAMAR GARDENS

4.1.1 SHALAMAR GARDENS - INTERIOR

The mission has the opinion that the state of conservation of significant elements of Shalamar Gardens is critical. Severe humidity problems faced on the Perimeter Wall of Shalamar Gardens and investigated by the previous Joint UNESCO-ICOMOS Reactive Monitoring Missions have not yet addressed effectively. Their complete treatment will only be possible after the construction of perimetric external drainage and the downgrading of the level of the perimeter road level alongside with its transformation into a pedestrian walkway. There is urgent need restoration works in progress inside the site to continue on the Aramgah-E-Shah Jahan, the Aiwan pavilion, the corner towers and the historical gateways. Restoration works are, also, necessary for individual constructive elements such as brick pavement, wooden ceilings, stone and marble covering. The impression from the general interior condition of Shalamar Gardens was not brilliant, due, additionally, to the poor planting of lawns and the absence of flowers during the mission visit time.

4.1.2 SHALAMAR GARDENS – EXTERIOR/METRO LINE PROJECT

It is regrettable that the Orange Line Metro project was not presented to the World Heritage Centre in 2007 when the idea was first considered. It may have been possible for a solution, other than the alternatives developed by the State Party, to have been considered which could have had less impact on the OUV of the property. The lack of adequate consultation appears to reflect the lack of an adequate management structure at the property.

The above described factors of built environment contribute negatively on the authenticity and integrity of Shalamar Gardens and if not addressed urgently and systematically with appropriate and immediate measures within the frames of an active buffer zone project and Management Plan, may adversely affect the attributes which contribute to the Outstanding Universal Value of the property.

It is also regrettable that despite repeated requests by the World Heritage Committee and recommendations of past Reactive Monitoring missions, the State Party has to date not formally established an enlarged buffer zone, in order to adequately manage and effectively control encroachments and urban development at the property. This is crucial, especially in light of the current development proposal for the Orange Line Metro project. The present buffer zone arrangements clearly lack formal recognition and can therefore be considered as ineffective. While the Antiquities Act 1975 restricts all constructions within a distance of 200-feet of a protected site, constructions on Government Land require special permission. The proposed metro line lies within the 200-feet protective zone and has unfortunately been granted permission by the Government of Punjab and the DOA.

The ambiguity of control mechanisms and lack of effective protection is manifestly evident in the fact that the proposed location of the Orange Line Metro will pass at only 28m distance from the Shalamar Gardens’ SE tower and immediately above the remaining water tanks of the Shalamar hydraulic works. This particular site and the demolished hydraulic works were repeatedly cause for concern, and were one of the reasons for the inscription of the property on the List of World Heritage in Danger in 2000 (subsequently removed in 2012). Moreover, the Committee specifically requested that the location of the remaining hydraulic works be adequately presented and protected.

The ongoing development project, the insufficient ability to monitor and control urban encroachments in and adjacent to the property and to control the actions of other agencies threaten the OUV of the property, including its integrity and authenticity.
4.2 MEASURES FORESEEN BY THE STATE PARTY TO PROTECT THE OUTSTANDING UNIVERSAL VALUE OF THE PROPERTY

4.2.1 LAHORE FORT: SURROUNDINGS – BUFFER ZONE

According to the Master Plan, on the south side of the Fort the road traffic is planned to move to the next inner parallel road and instead to create a pedestrian street in its place, integrating all available open spaces.

The same pattern is planned to be applied on the eastern side of the Fort, which is even more densely built up. Like the case of Shalamar Gardens, the same kind of contemporary structures, which are visual evident from the ramparts of the Ford, exist in the surrounding east and south sides of the property. Here too, vehicle traffic will be transmitted on a parallel inner road, the large electric power stacks or antennae of telephones will be removed, and a pedestrian street will be created. The local masjids will also be highlighted.
5 CONCLUSIONS AND RECOMMENDATIONS

5.1 GENERAL CONCLUSIONS & RECOMMENDATIONS

The Reactive Monitoring mission to the property, initially requested by the World Heritage Committee in July 2016, could only be carried out from 23 to 29 April 2018.

During the two-year period, the objectives of the mission would have changed from "proposing an alternative solution" to assessing the overall impact of the project on the OUV of the property. In July 2016, the potential for the Metro Line project to have a highly negative impact on the property was brought to the attention of the World Heritage Committee by the World Heritage Centre and Advisory Bodies, and no reassuring feedback was provided by the State Party.

The mission also notes with concern that the Orange Line Metro Project (OLMP) was planned in 2007 and implemented in summer 2015 without details being provided to the World Heritage Committee, as per the provisions of Paragraph 172 of the Operational Guidelines.

The World Heritage Centre, ICOMOS and ICCROM proposed this property for inclusion on the List of World Heritage in Danger at the 40th and 41st sessions, but after much debate, the Committee decided not to proceed at the time. A Reactive Monitoring mission to the property has been outstanding since 2016 and should have allowed for a review of the metro line project and its impacts before irreversible decisions were taken. In 2017, the Committee expressed its deep regret that the State Party had not invited the Reactive Monitoring mission as requested, and that no exhaustive impact assessments for this project had been undertaken, including the visual impact assessment requested by the Committee, to determine any and all impacts that the project may have on the Outstanding Universal Value (OUV) of the property, and thus whether and how these might be mitigated.

A final decision on the project was published by the Supreme Court of Pakistan in early December 2017 and granted approval to the project, although construction had already progressed significantly by that time. The State Party invited the Reactive Monitoring mission following this decision. Meanwhile, the State Party of Pakistan submitted a state of conservation report for the property on 29 January 2018.

This context made this Reactive Monitoring mission even more difficult and complex.

The mission considers that the Metro Line project has adverse impacts on the World Heritage property's OUV, notably regarding features relating to artistic and aesthetic expression, and on its integrity and setting.

Lahore is a historic city with 12 million residents. While the crucial need for public transport and its overall benefit to the population and the environment are duly acknowledged, the actual location of the elevated viaduct girders near the Shalamar Gardens component site undoubtedly impacts negatively on the OUV of the property.

The Fort and Shalamar Gardens in Lahore were inscribed on the World Heritage List in 1981. During the past decades, Lahore has witnessed rapid social and economic development in Pakistan and will be facing even more and more challenges in terms of conservation and management. It appears that further improvements are required, in particular in terms of setting a broader vision for the protection and management of the property as a living heritage city, or even a historic urban landscape, to integrate tangible and intangible heritage values. Improvements are also required to better coordinate the enforcement of different rules and regulations governing urban and rural planning, land use, tourism development and heritage conservation. Apart from the property's OUV, the Fort and Shalamar Gardens contribute significantly to the value of Lahore city, which is branded by these historic value and cultural heritage. Besides tangible heritage, intangible heritage values and other elements should be full addressed through research and studies that will help define conservation and management strategies. These notably include local cultural identity and sources of pride of the communities, links to local history and Muslim culture, educational values and symbolic roles, along with the spiritual aspects of cultural heritage.

In Lahore city, one of the primary issues in years to come will be urban and rural regeneration and expansion. In this regard, it is essential to establish an active and more dynamic interaction between
conservation and development. This includes processes of community consultation and public participation, which should be integrated into the conservation and management systems.

In the near future, if Lahore is a well-managed living heritage city, it will have strong competitive power to attract not only tourists, but also residents of Pakistan. From the historic values of built heritage and the increasing associative intangible heritage values to local cultural identity and community pride, the links with religious leaders and community members, educational values, the symbolic role and spiritual dimension of cultural heritage (and notably Islamic heritage), these aspects and associative cultural products constitute crucial ‘cultural capital’ towards the development programme for Lahore.

To formulate specific recommendations found below, the Mission held open and frank discussions with the competent national and local authorities. Overall, the mission wishes to stress again the great need to adequately manage and effectively control encroachment and urban development in and around the property, and therefore requests the State Party to immediately undertake setting studies and implement procedures in this regard, to be taken into account when proposing an enlargement of the property’s buffer zone.

5.2 SPECIFIC RECOMMENDATIONS

5.2.1 SHALAMAR GARDENS: ORANGE LINE METRO PROJECT

The construction of the Orange Line Metro, just in front of the south (British) entrance of the Shalamar Gardens, is now an irreversible fact, and there is no possibility to shift the viaduct further away. In addition to the undoubtable impacts of the new metro viaduct, the permanent and long-term pollution from fumes and dust created by the high volume of traffic along the southern periphery of the site have already resulted in encrustation, corrosion and deterioration of materials.

Very serious visual, noise, vibration and air pollution impacts can already be noticed at the site, altering the historical natural and built environment both around and within the World Heritage property. The Shalamar Gardens were laid out as a Persian paradise garden, intended to create a representation of an earthly utopia in which humans co-exist in perfect harmony with all elements of nature. Therefore, the Orange Line Metro viaduct threatens the essential elements of the OUV for which the property was inscribed, and notably its integrity and authenticity. In particular, it has adverse impacts on the OUV in relation to the artistic and aesthetic accomplishments of the Mughal civilization highlighted in Criterion (ii).

The question arises if any measures could at least reduce – if not eliminate – the negative impacts of the constructed section of the Orange Line Metro which borders the component site. In this spirit, the mission proposes the following measures:

Redirect the GT Road behind the existing Orange Line Metro, using the one of the two lanes of the motorway (i.e. redirecting traffic to the lane beyond the viaduct, currently used as a single-direction lane), and construct an additional motorway further on to the south for the other direction traffic.

*Note:* The 30 m distance between the piers of the viaduct means that it is possible to alter the direction of vehicular traffic just before the Shalamar Gardens metro station (to the west of the component site) and revert it to its current state at the edge of the Buffer Zone, to the east of the component site. It should be noted that the realignment of the GT Road behind the remaining 3rd Hydraulic Tank was also proposed by the UNESCO Islamabad Master Plan in 2006 (p.196, Fig. 7.12).

This could have many positive results for the component site, such as the creation of an active protective zone alongside the south façade of the Gardens, which would in turn permit:

- To mitigate pollution caused by suspended particulates from vehicle emissions, fumes, dust, chemical compounds of car pollutants, which have long-term destructive effect on the historical buildings and their ornamentation;

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3 *Note:* three plans (see Annex 8, Fig. 41, 42) are annexed to this Report for a better understanding of the recommendations. They are based on the actual situation but they are schematic, rendering the general idea rather and not attributing the real dimensions of the proposed motorways, for which a detailed study should be required.
To reveal the historical GT Road (which originally passed at a lower level) and create a pedestrian area alongside the south façade, thereby gaining the possibility of opening the south (British) entrance to the site, which is currently impossible due to the fast traffic and the limited dimensions of the sidewalk (see ICOMOS – Pakistan: Shalamar Gardens. Visual Impact 2015-2016, Fig. 1.09 on p. 6 and Annex 8, Fig. 40, 47). This pedestrian road could easily be connected with a future pedestrian road around the other sides of the Gardens, within the framework of the revised Buffer Zone (see specific recommendations below);

To lower the ground level around the 3rd hydraulic tank and the historical GT Road. As is visible in the photo documentation (see photos on pages 2-4 of the ICOMOS – Pakistan: Shalamar Gardens. Visual Impact 2015-2016) and as ascertained on site by the mission (see Annex 8, Fig.26), the ground plan of the 3rd hydraulic tank is much lower than the current level of the surrounding soil. The latter should be correlated with that of the Aramgah-E-Shah Jahan, at the entrance of the First Terrain of the Shalamar Gardens, which is approximately 1.20 m lower than the current level of the GT Road. Therefore, the historical GT Road should be located at that lower level (see Annex 8, Fig. 40, 42);

To integrate the remaining 3rd hydraulic tank, as well as the remnants of the destroyed 1st and 2nd hydraulic tanks, to the south façade of the site, where they belonged historically, creating a wide green area and a real archaeological park which could also provide educational information on hydraulic systems of the Mughal period (see Annex 8, Fig. 41, 42);

To combine the construction of the additional motorway with the creation of an intermediate green belt to create a separation from the existing motorway, which will permit to protect the Mughal pavilion, which is possibly related to the Shalamar Gardens’ hydraulic system. Preliminary and investigation archaeological excavations are strongly recommended before any construction is planned in this area (see Annex 8, Fig. 41, 42).

To develop a more extended green area with tall trees, giving a possibility of creating a natural “mask” for the newly-constructed Orange Line Metro.

In addition, the mission recommends additional measures to mitigate the unacceptable levels of the noise caused by the operation of the Orange Line Metro and the dual motorway, as part of the introduction of a Noise-Sensitive Zone:

Construct a tube of triplex transparent glass, reinforced with a PVB soundproofing membrane, covering the Metro Line viaduct between the Shalamar Garden and the Pakistan Mint stations. This construction could also help mitigate the visual impact on the site.

Affix station curtains made of triplex transparent glass on the road side and on the piers along the viaduct bridge, between the Shalamar Garden and the Pakistan Mint stations, reinforced with a PVB soundproofing membrane. This glass palisade between the piers would effectively reflect the noise from the motorway in the direction opposite to the south side of the Shalamar Gardens (see for instance the protective glass curtain at the Quai Branly Museum in Paris, introduced by architect Jean Nouvel) (see Annex 8, Fig. 41, 42).

The chronic problems of water infiltration can be addressed only by installing a drainage system all around the Perimeter Wall. However, it is recommended that the study for this project not be done independently, but in conjunction with the final arrangement and transformation of the perimeter road into a pedestrian street, within the frames of the Buffer Zone project of the site.

It is urgent that the restoration/conservation works in progress inside the site be intensified and made more effective, notably for the Aramgah-E-Shah Jahan, the Aiwan pavilion, the corner towers and the historical gateways. Restoration works are also necessary for individual elements such as brick pavements, wooden ceilings, and stone or marble coverings. The external waterway along the outside façade of the Perimeter Wall, which was part of the Mughal hydraulic system of the Gardens, should be immediately restored.

While the mission acknowledges that this project cannot be realized without demolishing a number of buildings on the opposite side of the road, it is also noted that several buildings – including a police station – have been demolished (entirely or in part), and that many of the opposite buildings are rough constructions. A large area on the opposite side is covered by an open market with booths, which implies that fewer people would need to be relocated, and that they can work in even better conditions, provided that the State Party takes the appropriate measures. Finally, shifting the south
entrance to the Shalamar Gardens station is an easy project, as it is currently a metallic construction (see Annex 8, Fig. 43, 44, 46, 47).

The mission wishes to emphasize that all the measures above should be understood as part of the Buffer Zone project protective measures, especially for the south side of the site (in combination with the recommendations for the buffer zone issue).

**RECOMMENDATIONS**

1. Redirect the GT Road behind the existing Orange Line Metro, using the lanes of the one of the two current directions of the dual motorway (i.e. redirecting traffic to the lane beyond the viaduct, currently used as a single-direction lane), and construct an additional motorway further on to the south for the other direction traffic;

2. Transform the perimeter road into a pedestrian street and lower the perimeter road, which will contribute to the rehabilitation of the historic gateways to the site. Move vehicular traffic to the surrounding streets, further away, introducing a Noise Sensitive Zone in the surroundings. Safeguard shops in the surrounding streets;

3. Construct a tube of triplex transparent glass, reinforced with a PVB soundproofing membrane, covering the Metro Line viaduct between the Shalamar Garden and the Pakistan Mint stations, which could also help mitigate the visual impact on the site;

4. Affix station curtains made of triplex transparent glass on the road side and on the piers along the viaduct bridge, between the Shalamar Garden and the Pakistan Mint stations, reinforced with a PVB soundproofing membrane, to reflect the noise from the motorway away from the south side of the Shalamar Gardens;

5. Mitigate pollution caused by suspended particulates from vehicle emissions, fumes, dust, chemical compounds of car pollutants, which have long-term destructive effect on the historical buildings and their ornamentation;

6. Reveal the historical GT Road (which originally passed at a lower level) and create a pedestrian area alongside the south façade, thereby gaining the possibility of opening the south (British) entrance to the site, which is currently impossible due to the fast traffic and the limited dimensions of the sidewalk. This pedestrian road could easily be connected with a future pedestrian road around the other sides of the Gardens, within the framework of the revised Buffer Zone;

7. Lower the ground level around the 3rd hydraulic tank and the historical GT Road to align it with those around the Aramgah-E-Shah Jahan, at the entrance of the First Terrain of the Shalamar Gardens, which is approximately 1.20 m lower than the current level of the GT Road;

8. Integrate the remaining 3rd hydraulic tank, as well as the remnants of the destroyed 1st and 2nd hydraulic tanks, to the south façade of the site, where they belonged historically, creating a wide green area and a real archaeological park which could also provide educational information on hydraulic systems of the Mughal period;

9. Immediately restore the external waterway along the outside façade of the Perimeter Wall, which was part of the Mughal hydraulic system of the Gardens;

10. Combine the construction of the additional motorway with the creation of an intermediate green belt to create a separation from the existing motorway, which will permit to protect the Mughal pavilion, which is possibly related to the Shalamar Gardens' hydraulic system. Preliminary and investigation archaeological excavations are strongly recommended before any construction is planned in this area.

11. Develop a more extended green area with tall trees, giving a possibility of creating a natural “mask” for the newly-constructed Orange Line Metro;

12. Construct a drainage system all around the perimeter road, in order to effectively address the water penetration effect on the Perimeter Wall. The study for this project should be carried out in conjunction with the final arrangement and transformation of the perimeter road into a pedestrian street, within the frames of the Buffer Zone project of the site;

13. Urgently intensify the restoration/conservation works in progress, notably for the Aramgah-E-Shah Jahan, the Aiwan pavilion, the corner towers and the historical gateways, along with restoration of specific elements (brick pavements, wooden ceilings, and stone or marble coverings);
14. Monitor the effects of vibrations arising from the Orange Line Metro project on the property.

5.2.2 MANAGEMENT PLAN & BUFFER ZONE

The mission reiterates the point made in World Heritage Committee’s Decision 34 COM 7A.25 (Brasília, 2010), namely that “work remains to be done to ensure an effective control of encroachments around the Shalamar Gardens”, and that “this is a delicate issue that requires careful consultations with the local community and appropriate solutions that balance conservation needs and sustainable development”.

Conservation issues:
- In order to protect the buildings from acid attack due to the presence of gases in the atmosphere, plaster of proper composition should be applied to seal the joints/cracks;
- The material used for restoration should be of the same composition as the original materials. Restoration work should be carried out along scientific lines after carefully evaluating the effects of repairing techniques. The interaction of repairing materials with the original construction materials should also be studied in detail before carrying out rehabilitation work.

The mission is of the opinion that the Management Plan referring to the buffer zone proposal should comprise the following key goals for protection and development:
- Enlarge the boundaries of the protective buffer zone on a wider scale, covering the surrounding building blocks and reaching the next surrounding streets. It should be underlined that a similar cultural zone width was proposed in the 2016 UNESCO Islamabad Master Plan (see: p.189, Fig. 7.11, Plan showing cultural zones);
- Adequately manage and effectively control encroachment and urban development in and around the property;
- Upgrade the surrounding area with the creation of a pedestrian street, improve the natural environment, the living and working conditions of the inhabitants and create adequate infrastructure for the visitors;
- Consider the extension of the property with the aim to including the Royal Mosque (Badshahi Masjid) and the Tomb of Rangit Singh.

In particular, the following studies are recommended for the Gardens’ Buffer Zone:
- Extensive physical and socio-economic baseline surveys and a comprehensive analysis of the current situation and overall trends within the Buffer Zone area, as prerequisite for the future development of the area and the establishment of active and pragmatic regulations;
- Traffic arrangement on the north-, east- and west-side roads, starting with the introduction of one-way traffic. In a second and final stage, transform the perimeter road into a pedestrian street and downgrade the perimeter road level, which will contribute to the rehabilitation of the historic gateways to the site. Move vehicular traffic to the surrounding streets, further away, introducing a Noise Sensitive Zone in the surroundings. Safeguard shop supply from the vertical streets;
- Construct a drainage system all around the perimeter road in order to effectively address the water penetration effect on the Perimeter Wall. The water table may be lowered by installing pumps around the monument;
- Introduce environmental protection instruments in the Buffer Zone. Implement controls for height and construction regulations and remove all inappropriate structures. Install underground infrastructure elements and networks where necessary;
- Upgrade the working conditions of the traditional professions that operate in the area and create new economic opportunities for local residents. This is especially important due to the social and economic repercussions aiming at poverty alleviation;
- Integrate open spaces in order to serve the needs of the inhabitants, e.g. green areas, kindergarten and schools. Upgrade the areas surrounding active religious buildings and establish controlled parking places;
Rehabilitate the land immediately to the west of the Shalamar Gardens, which comprises historical buildings, and incorporate services for the site visitors (e.g. refreshments, traditional coffee/tea houses). The area's main front side, on the pedestrian Grand Trunk Road (GT Road), should be treated accordingly.

**RECOMMENDATIONS**

15. Enlarge the boundaries of the protective buffer zone on a wider scale, covering the surrounding building blocks and reaching the next surrounding streets.

16. Adequately manage and effectively control encroachment and urban development in and around the property in the buffer zone and its wider setting;

17. Upgrade the surrounding area with the creation of a pedestrian street, improve the natural environment, the living and working conditions of the inhabitants and create adequate infrastructure for the visitors;

18. Consider extending the property to include the Royal Mosque (Badshahi Masjid) and the Tomb of Rangit Singh;

19. Conduct extensive physical and socio-economic baseline surveys and a comprehensive analysis of the current situation and overall trends within the Buffer Zone area, as prerequisite for the future development of the area and the establishment of active and pragmatic regulations;

20. Introduce environmental protection instruments in the Buffer Zone. Implement controls for height and construction regulations and remove all inappropriate structures. Install underground infrastructure elements and networks where necessary;

21. Upgrade the working conditions of the traditional professions that operate in the area and create new economic opportunities for local residents, to help with poverty alleviation;

22. Integrate open spaces in order to serve the needs of the inhabitants, e.g. green areas, kindergarten and schools. Upgrade the areas surrounding active religious buildings and establish controlled parking places;

23. Rehabilitate the land immediately to the west of the Shalamar Gardens, which comprises historical buildings, and incorporate services for the site visitors (e.g. refreshments, traditional coffee/tea houses). The area’s main front side, on the pedestrian Grand Trunk Road (GT Road), should be treated accordingly.

5.2.3 OVERALL COORDINATION ON MANAGEMENT MECHANISM OF THE PROPERTY

With regard to management, the mission recognised that the State Party is carrying out ongoing work to reinforce its management and monitoring framework at the property. However, this framework must take into account the fact the existence of the World Heritage property, and that Lahore is a living heritage city and must therefore involve community members and other stakeholders in the management mechanisms for the property. The mission also considers that, from a management perspective, the lack of adequate consultation appears to reflect the inadequate management structure for the property. The case of the Orange Line Metro Project clearly shows the lack of coordination amongst different stakeholders (national and local) in planning and operating public works in the property. It also demonstrates the absence of a comprehensive management mechanism, which should control and monitor urban encroachment and the related development projects in the vicinity of the World Heritage property. With the Antiquities Amendment Act of 2012, the main responsibility and ownership of cultural heritage sites now rests solely with the Provincial Government, which will nonetheless require regular consultation with the national authorities for the purposes of reporting under the 1972 World Heritage Convention.

Further reflection and improvements are needed to enhance the effective protection and management of World Heritage properties in Pakistan. Special attention should be paid, within the management mechanisms, to avoid the overdevelopment of tourism infrastructure within the property and within its Buffer Zones. The mission found that tourism development has started reaching a critical mass, which could have significant impacts on the property and its OUV, if it is not controlled in the best of time. Many of the component parts are very fragile, especially as they are located in an urban setting, and need constant monitoring and control to ensure their protection.
RECOMMENDATIONS

24. Set up participatory planning, conservation and management processes at the federal level, involving regular consultations with different stakeholders involved in the property, and guaranteeing the community’s direct participation in site management.

25. Ensure that reporting in the framework of the 1972 World Heritage Convention occurs in close cooperation between the Federal and provincial governments, bearing in mind that the duties under the Convention lie primarily with the Federal Government.

26. Avoid the overdevelopment of tourism infrastructure within the property and within its Buffer Zones and implement monitoring measures to avoid over-tourism.

27. Monitor and restore, when needed, the fragile component parts, especially those located in an urban setting.

5.2.4 LAHORE FORT

In general, the interior decorations in all the historical buildings of the Fort require urgent conservation. They face additional problems with water infiltration, and the marble covering is detaching, while the brick fabric and lime mortar covering of the facades need restoration.

RECOMMENDATION

28. Proceed with the urgent conservation of interior decorations in all the historical buildings of the Fort require, and especially address issues related to water infiltration, the loosening of the marble covering and the restoration of the brick fabric and lime mortar covering of the facades;

5.2.5 PROPOSALS FOR NEW DEVELOPMENTS AND HERITAGE IMPACT ASSESSMENTS

The mission emphasizes that all conservation projects being carried out or planned at the property, along with the draft Buffer Zone project and the Management Plan, should be submitted to the World Heritage Centre for review by the Advisory Bodies, in accordance with Paragraph 172 of the Operational Guidelines.

The mission is of the view that any further development/renovation project should be very carefully planned and evaluated in line with the 2011 ICOMOS Guidelines on Heritage Impact Assessments for Cultural World Heritage Properties and follow proper decision-making and approval procedures.

Therefore, one of the principal tasks for the Department of Archaeology of the Government of Punjab will be to evaluate and assess project proposals through techniques such as environmental, visual, social and economic impact assessments, so that conservation and sustainable development may work together. Further training and capacity-building activities can be organized for World Heritage Site Managers in Pakistan. At the institutional level, it is recommended that the Federal Government should set up participatory planning, conservation and management processes, involving regular consultations with different stakeholders involved in the property, and guaranteeing the community’s direct participation in site management.

RECOMMENDATIONS

29. Ensure that all conservation projects planned or being carried out at the property, along with the draft Buffer Zone project and the Management Plan, are submitted to the World Heritage Centre for review by the Advisory Bodies, in accordance with Paragraph 172 of the Operational Guidelines.

30. Ensure that any further development/renovation project are very carefully planned and evaluated, in line with the 2011 ICOMOS Guidelines on Heritage Impact Assessments for Cultural World Heritage Properties, and follow proper decision-making and approval procedures;

31. Evaluate and assess, at the level of the Department of Archaeology of the Government of Punjab, any new project proposals through techniques such as environmental, visual, social and
economic impact assessments, so that conservation and sustainable development may work together.

32. Set up participatory planning, conservation and management processes at the federal level, involving regular consultations with different stakeholders involved in the property, and guaranteeing the community’s direct participation in site management.

5.3 INSCRIPTION ON THE LIST OF WORLD HERITAGE IN DANGER

The joint World Heritage Centre/ICOMOS Reactive Monitoring mission concludes that the integrity of the property, and therefore its OUV, is threatened by the construction of the new Orange Line Metro, which is set to pass by the Shalamar Gardens on elevated viaduct girders, within 30 m of the Gardens’ towers and immediately above the only remaining water tanks of the Shalamar hydraulic works. The adverse impact on features of the Shalamar Gardens which contribute to the OUV of the property is evident.

It should be recalled that, during the 41st session of the Committee, the World Heritage Centre and the Advisory Bodies recommended that “taking into consideration: (i) the impacts of the ongoing construction work on the setting and integrity of the Gardens; (ii) the absence of a comprehensive management mechanism which can control and monitor urban encroachment as well as the related development projects in the vicinity of the property; and (iii) the absence of any mitigation measures proposed by the State Party, it is recommended that the Committee immediately inscribe the property on the List of World Heritage in Danger, in accordance with Paragraph 179(b) of the Operational Guidelines.” The current Reactive Monitoring mission confirms that the adverse impact of the ongoing construction work of the Metro Line on the property’s OUV, integrity and setting.

The need for improved public transport is duly acknowledged, but although the existing Heritage Impact Assessment does identify mitigation actions, the route and location should be determined to avoid impacts on features of the Shalamar Gardens which contribute to the OUV of the property.

The conclusion of the mission is clear: the construction of the Orange Line Metro, which is set to pass just in front of the south side of Shalamar Gardens, has irreversible impacts on the values relating to the artistic and aesthetic accomplishments exemplified by the property and recognised at the time of inscription, especially under Criterion (ii) and (iii). Additionally, the property suffers from the visual impacts of the new construction on the perception and image of the site, and on its appearance from both outside and inside the garden; the property is to be further impacted by the heavy noise of the Metro Line when in operation, which adds to the already substantial noise and air pollution impacts of the GT Road.

For a prolonged period (from 2007 onwards), the State Party did not inform the World Heritage Committee of the Orange Line Metro project, and especially about the impacts of the planned construction and the route of the metro line on the OUV of the property, as was its obligation in conformity with Paragraph 172 of the Operational Guidelines. Nor did the State Party inform the 2012 joint UNESCO/ICOMOS Reactive Monitoring mission to Fort and Shalamar Gardens in Lahore, even though the monument was then on the List of World Heritage in Danger (since 2000). The conclusions of the 2016 Heritage Impact Assessment significantly downplay the very serious environmental impacts of the new metro line and do not in any way represent the reality.

Therefore, the Reactive Monitoring mission proposes that the World Heritage Committee place the World Heritage property “Fort and Shalamar Gardens in Lahore” on the List of World Heritage in Danger, in order to enable the State Party to show its good will for cooperation and to proceed immediately with the full and exhaustive implementation of all mitigation measures and recommendations proposed in the present report. It is crucial that before any of the proposed measures are implemented, detailed project studies be submitted (within a period of six months) to the World Heritage Centre for review by the Advisory Bodies, and that implementation only start after positive feedback has been received from the World Heritage Centre and the Advisory Bodies.
ANNEXES

ANNEX 1  Terms of Reference of the Reactive Monitoring mission (including Decisions 40 COM 7B.43 and 41 COM 7B.96)

ANNEX 2  Management structure diagram

ANNEX 3  Composition of the Mission Team

ANNEX 4  Itinerary and programme

ANNEX 5  Additional monuments of Mughal period on Orange Line Metro Project route visited by the Mission

ANNEX 6  Monuments of Mughal period in the Walled City, visited by the Mission

ANNEX 7  List of people met

ANNEX 8  Maps and Photos (PPT)
ANNEX 1

TERMS OF REFERENCE
FOR THE JOINT WHC/ICOMOS REACTIVE MONITORING MISSION
TO THE FORT AND SHALAMAR GARDENS, LAHORE (PAKISTAN)
23-29 APRIL 2018

In accordance with Decisions 40 COM 7B.43 and 41 COM 7B.96 adopted by the World Heritage Committee at its 40th (Istanbul/UNESCO, 2016) and 41st (Krakow, 2017) sessions respectively (see Annexes I and II), a joint World Heritage Centre/ICOMOS Reactive Monitoring Mission will visit the World Heritage property “Fort and Shalamar Gardens of Lahore” from 23 to 28 April 2018, at the invitation of the State Party of Pakistan, despite the fact that the Reactive Monitoring Mission has been delayed since 2016.

The main objective of this mission, as set out in the Committee’s aforementioned Decisions, is to examine the actual impacts of the Orange Line Metro project on the Outstanding Universal Value (OUV) of the property and thus discuss with the relevant Government authorities whether and how these might be mitigated, taking into account the decision of the Honourable Supreme Court of Pakistan published in December 2017, and to review the management and protection arrangements for the property, with a view to considering whether there is an ascertained or potential danger to the Outstanding Universal Value of the World Heritage property.

The Mission shall assess the state of conservation of the property and any factors that may have a potential impact on the property’s OUV. In particular, the Mission shall:

1) Assess the overall Orange Line Metro project, and especially:
   a) Consider the background to the project, notably:
      • The evolution of the Orange Line Metro project,
      • The consultations undertaken to define the route of the metro line,
      • How far impacts on the OUV of the property were taken into account in the decision-making process,
      • The Heritage Impact Assessment (HIA) undertaken in 2016 by P. Rogers Ltd., and in particular whether the HIA fully took into account the OUV of the property and whether it is in line with the ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties;
   b) Consider the scope of the construction work already undertaken;
   c) Consider the impact of this construction and the entire project, once finalized, on the OUV of the property, and especially:
      • Review the Visual Impact Study on the Orange Line Metro Project carried out by the State Party, as requested by the World Heritage Committee at its 40th and 41st sessions,
      • Evaluate the actual impacts of the project on the property’s OUV, along with any further potential impacts, using a holistic approach and taking into account the impacts of vibrations, noise and the visual impact on the main perspectives towards and from the property,
      • Assess what mitigation measures, if any, have been planned or could be implemented in order to counteract any actual or potential impact of the Orange Metro Line project on the OUV of the property;

2) Assess the current capacity and effectiveness of the authorities responsible for the management of the property, in terms of both human and financial resources.

In order to enable preparation for the mission, the State Party should provide the following items in appropriate format, including web links, to the World Heritage Centre and ICOMOS as soon as possible and preferably no later than one month prior to the mission:
a) Detailed information and the most recent data on the current status of the Orange Line Metro project and any ongoing and planned developments or other projects within the property or in its vicinity, and HIAs for such projects, including specific assessment of their potential impacts on the OUV of the property;

b) Any other supporting documentation to demonstrate how impacts on the OUV of the property were taken into account in the decision-making process;

The mission will hold consultations with the relevant authorities of Pakistan, particularly the Directorate-General of Archaeology, Museums and Culture, as well as the management authorities of the Government of Punjab. In addition, the mission will hold consultations with a range of relevant stakeholders, including representatives of non-governmental organizations (NGOs), relevant scientists, researchers and experts.

Based on the results of the above-mentioned reviews, assessments and discussions with the State Party representatives, authorities and stakeholders, the Mission will prepare a concise report on the findings and recommendations within six weeks following the site visit, following the attached reactive monitoring mission report Format. The mission’s recommendations to the Government of Pakistan and the World Heritage Committee will include an assessment of whether any ascertained or potential danger to the Outstanding Universal Value of the property could warrant its inscription on the List of World Heritage in Danger. It should be noted that recommendations will be provided within the mission report and not during the mission implementation.
DECISION 40 COM 7B.43

Fort and Shalamar Gardens in Lahore (Pakistan) (C 171)

The World Heritage Committee,

1. Having examined Document WHC/16/40.COM/7B.Add,
2. Recalling Decision 38 COM7B.19, adopted at its 38th session (Doha, 2014),
3. Notes the efforts made by the State Party to address the conservation of the property and the steps taken to revise the conservation plan, including the revitalisation of the training institute, although no further details as to the organigram and timeline for its establishment have been provided;
4. Also notes that, to date, the State Party has not formally submitted a proposal for a minor boundary modification, which would include an enlarged buffer zone for the property as well as the adopted regulatory measures;
5. Expresses its serious concern about the development of the Orange Line Metro and requests the State Party to prepare a visual impact study of the project to be presented to the World Heritage Centre and the Advisory Bodies before pursuing the works of the Orange Line Metro associated with the Shalamar Gardens;
6. Reminds the State Party to submit to the World Heritage Centre, in conformity with Paragraph 172 of the Operational Guidelines, technical details, including Heritage Impact Assessments (HIA), for all proposed projects that may have an impact on the Outstanding Universal Value (OUV) of the property prior to their approval, for review by the Advisory Bodies;
7. Requests the State Party to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property at its earliest convenience, to examine the Orange Line Metro project and to discuss the same with the relevant Government authorities and to review the management and protection arrangements of the property;
8. Also requests the State Party to submit to the World Heritage Centre, by 1 February 2017 an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 41st session in 2017, with a view to considering whether there is an ascertained or potential danger to the Outstanding Universal Value of the property.
DECISION 41 COM 7B.96

Fort and Shalamar Gardens in Lahore (Pakistan) (C 171)

The World Heritage Committee,

1. Having examined Document WHC/17/41.COM/7B.Add.2,

2. Recalling Decision 40 COM 7B.43, adopted at its 40th session (Istanbul/UNESCO, 2016),

3. Notes that the Reactive Monitoring mission will be invited immediately after the decision of the Honourable Supreme Court of Pakistan is announced;

4. Also notes that the State Party is undertaking measures to control and monitor urban encroachments and stresses upon the need to expedite this process as far as possible and requests the State Party to further improve the collaboration with related national and local authorities in implementation of the Management Plan;

5. Requests the State Party:

   a) to urgently complete and share with the World Heritage Centre the Visual Impact Study as decided by the World Heritage Committee at its 40th session as soon as possible, and at the latest on 1 December 2017;

   b) to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring Mission to the property immediately after the announcement of the decision of the Honourable Supreme Court of Pakistan, to examine the Orange Line Metro Train project and to discuss the same with the relevant Government authorities and to review the management and protection arrangements of the property;

6. Considers that the highest priority must be given to considering how the Shalamar Gardens and their spiritual associations can be sustained alongside any necessary measures to satisfy the needs of a growing city, by setting out the precise and detailed nature of the potential impacts of the Orange Line Metro project on the OUV of the property, and whether and how mitigation measures can be undertaken;

7. Reiterates the great need to adequately manage and effectively control encroachment and urban development in and around the property, and therefore further requests the State Party to immediately undertake setting studies and procedures in this regard, which will be taken into account when proposing an enlargement of the property’s buffer zone;

8. Notes the conservation work that has been undertaken at Lahore Fort and is in progress at the Shalamar Gardens, and requests furthermore the State Party to ensure that all such work is documented, together with any necessary archaeological inputs;

9. Finally requests the State Party to submit to the World Heritage Centre, by 1 February 2018, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018.
ANNEX 3: COMPOSITION OF THE MISSION TEAM

The Mission team was comprised of:

- Dr Feng JING, Chief of the Asia and the Pacific Unit of the UNESCO World Heritage Centre (Paris), and

- Dr Alkiviades Prepis, Cultural Heritage Expert from the International Council on Monuments and Sites (ICOMOS)
ANNEX 4: ITINERARY AND PROGRAMME (23–29 APRIL 2018)

<table>
<thead>
<tr>
<th>S. No</th>
<th>Date</th>
<th>Detail of Activities</th>
<th>Timings</th>
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<tbody>
<tr>
<td>1</td>
<td>23-04-2018</td>
<td>Arrival of Delegates at Lahore Airport By Directorate General of Protocol and Archeology, Punjab. Stay at Hotel Flatti’s, Lahore.</td>
<td>3.45 am</td>
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<tr>
<td>2</td>
<td>23-04-2018</td>
<td>Meeting with Director General of Archaeology, Punjab, Review Mission Programme</td>
<td>1.30 pm</td>
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<tr>
<td>2</td>
<td>24-04-2018</td>
<td>1) Introduction of Reactive Monitoring Mission objectives (F. JING) and 2) Presentation by the Govt. of the Punjab on the Orange Line Metro Train Project regarding background, evolution, scope, impacts, and mitigation measures adopted during and after construction Phase. Break Meeting /Discussion with the Chairman and Members of the Special Committee of Experts, Director General, Archaeology, LDA, NESPAK regarding the decision &amp; Implementation of Honourable Supreme Court of Pakistan Evening visit to Shalamar Gardens</td>
<td>10.00 am to 11.30 am 12.00 am onward</td>
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<tr>
<td>3</td>
<td>25-04-2018</td>
<td>Site Visit to Shalamar Gardens (inside and outside) Meeting with the Director General, and Staff of Archaeology, Punjab, the Advisory Committee and ICOMOS Pakistan</td>
<td>9.30 am to 12.00 am 12.30 pm to 6.30 pm</td>
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<tr>
<td></td>
<td></td>
<td>Visit of Lahore Fort and buffer zone Meeting with DG &amp; Officers of the Walled</td>
<td>9.30 am to 12.00 am 12.30 am to</td>
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48
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<tr>
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<th>Date</th>
<th>Activity</th>
<th>Time</th>
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| 5. | 26-04-2018 | City of Lahore Authority  
Meeting with the Director General, Experts / debriefing on the state of conservation of Lahore Fort, presentation on cultural heritage sites in Lahore | 13.30 am    |
|   |            |                                                                          | 2.00 pm to 5.00 pm |
| 6. | 27.04.2018 | Visit of monuments and sites along the Orange Metro Line project  
Revisit of Shalamar Gardens | 10.00 am to 1 pm |
|   |            |                                                                          | 4 pm to 6 pm   |
| 7. | 28-04-2018 | Wrap-up meeting with the Ministry of Information, Broadcasting and National Heritage, Department of Archaeology, Government of Pakistan, DOA, LDA, NESPAK, WCLA and Experts, Punjab Government  
Discussions of the Mission team. | 10.00 am to 1 pm |
|    | 29.04.2018 | Departure of the delegates from Lahore Airport |
ANNEX 5: ADDITIONAL MONUMENTS OF THE MUGHAL PERIOD ON THE ROUTE OF THE ORANGE LINE METRO VISITED BY THE MISSION

Chauburji (the four minarets) Gateway is called because of its four corner minarets, out of which one on the north-west corner was actually lost. Situated on the Multan Road, the monument was built in 1646 and was previously acted as a gateway to a large garden that has now disappeared. The main architectural merit of the building is its rich exterior intricate kashi-kari, or Persian-style mosaic decoration with which its entire façade including the octagonal corner minarets are brilliantly embellished. In the 1960s the Department of Archaeology supervised the reconstruction of the destroyed tower and also restored the surviving parts of the monument. Chauburji is listed on the Protected Heritage Monuments of the Archaeology Department of Punjab. The elevated route of the OLMP has passed quite close to the tomb, in violation of the Punjab Special Premises Ordinance, 1985 and Antiquity Act, 1975 (within 200 feet distance) and caused irreversible visual and setting damage to the monument. Conservation / restoration works are in progress regarding the interior stone-carvings, tile work, stucco decoration and frescoes, and the exterior tile work (see Annex 8, Fig. 48, 49).

Buddhu’s Tomb is located alongside the GT Road, east of the Walled City of Lahore. The base level of the tomb is square shaped, and has a doorway in each side. Each doorway is flanked by a small recessed arch. Atop the base is an octagonal layer upon which the tomb’s prominent dome is placed, measuring 32 feet in diameter. The tomb is decorated with glazed blue and yellow tile-work, laid primarily in floral designs. The tomb's dome is decorated with blue tile-work in a chevron pattern.

The site is protected by the Antiquities Act 1975. The site was partially restored in 2014. The route of the OLMP has passed close to the tomb. Currently, there is an urgent need to address the rainwater penetration and air pollution impact on the interior stone-carvings, tile work, calligraphy and stucco decoration, and conservation of the exterior tile-work and brick fabric (see Annex 8, Fig. 50).

Behind the Gulabi Bagh Gateway and on the site of the former garden lies the mausoleum of Dai Anga, one of the well-known ancient mosques of Lahore. The founder was the wife of Murad Khan, a Mughal Magistrate of Bikaner. According to the date inscribed on the tomb, it was constructed in 1671 A.D. The mausoleum comprising a central tomb chamber and eight rooms around it was once beautifully decorated with mosaic work.

The tomb complex is listed on the Protected Heritage Monuments of the Archaeology Department of Punjab. The route of the OLMP has passed close to the tomb, in violation of the Punjab Special Premises Ordinance, 1985 and Antiquity Act, 1975 (within 200 feet distance). There is an urgent need to address the rainwater penetration and air pollution impact on the interior stone-carvings, tile work, stucco decoration and frescoes, and conservation of the exterior tile work (see Annex 8, Fig. 51, 52).
ANNEX 6: MONUMENTS OF MUGHAL PERIOD IN THE WALLED CITY VISITED BY THE MISSION

The mission had the opportunity to make a tour in the Walled City – the traditional core of Lahore - and to visit some of the most remarkable monuments and to be familiar with the results of the Pilot Urban Conservation and Infrastructure Improvement Project— the Shahi Guzargah Project, which was guided by the Government of Punjab, and the Aga Khan Trust for Culture (AKTC).

Within the frames of the Project a dozen of traditional buildings have been restored so far, ensuring better living conditions for the residents and rehabilitating the original image of the city (see Annex 8, Fig.57).

Wazir Khan Chowk is located at the main entrance to the Wazir Khan Mosque, and at a distance of approximately 250 m. west of the Delhi Gate. Extensive work has removed illegally erected shops which blocked off much of the mosque from the surrounding neighbourhood and restored its views, while the town square was lowered to the original depth found during the Mughal era in order to fully expose the mosque's original façade. The restoration of the rich exterior decoration made the mosque to acquire again its original majesty. The interior painting has been conserved (however some moisture problems remain, due to the higher level of surrounding streets). The well of Dina Nath was also restored. There was additional funding from the Ambassadors Fund for Cultural Preservation of the US Department of State (₨112 (US$1.10) million) (see Annex 8, Fig.54, 55).

The Shahi Hammam, also known as the Wazir Khan Hammam, is a Persian-style bath, built in 1635, during the reign of Emperor Shah Jahan, by chief physician to the Mughal Court, who was widely known as Wazir Khan. The baths were built to serve as a waqf, or endowment, for the maintenance of the Wazir Khan Mosque. The baths were restored between 2013 and 2015 with much of the funding provided by the government of Norway. Extensive archaeological excavations revealed the original hydraulic mechanism, while maintaining and restoring the original painting decoration. The restoration project was given an Award of Merit by UNESCO in 2016 for the hammam's successful conservation which returned it to its "former prominence" (see Annex 8, Fig.56).
ANNEX 7: LIST OF PEOPLE MET DURING THE MISSION

1. Nazir Ahmad, Deputy Secretary, Ministry of Information, Broadcasting and National Heritage, government of Pakistan
2. Mr Tahir Saeed, Deputy Director, Department of Archaeology and Museums, Government of Pakistan
3. Mr. Khawaja Ahmad Hassan, Senior Advisor to Chief Minister, Punjab
4. Mr. Sibtain Fazal Halim, Managing Director, Punjab Masstranist Authority (PMA)
5. Mr. Ijaz Ahmad, Director General, Archaeology Department, Punjab
6. Mr. Mazhar Hussain, Chief Engineer, Lahore Development Authority (LDA)
7. Mr. Salman Hafeez, General Manager (Project Manager, Orange Line), NESPAK
8. Mr. Syed Nasir Ali Shah, Legal Associate, Special Committee of Experts
9. Mr. Dr Asad Ullah Qazi, Head of Structure Division, Department of Civil Engineering, University of Engineering & Technology, Lahore (UET)
10. Mr. Dr Muhammad Hameed, Chairman, Department of Archaeology, Punjab University, Lahore (PU)
11. Mr. Hammad Ul Hassan, Project Director, Lahore Development Authority (LDA)
12. Mr. Dr Rizwan Riaz, Assistant Professor, Department of Civil Engineering, UET Lahore
13. Mr. Maqsood Ahmad, Deputy Director, Punjab Archaeology Department, Conservation Expert
14. Mr. Muhammad Naeem Iqbal, Project Director Archaeology Department / Coordinator of Special Committee of Experts
15. Mr. Mubashir Hassan, Deputy Director Conservation, Walled City of Lahore Authority, Punjab
16. Mr. Rashid A. Makhdum, Urban Designer, Aga Khan Cultural Service Pakistan
17. Mr. Jawad Azis, Culture Programme Specialist, UNESCO Islamabad
18. Mr. Sajjad Kausar, Vice President, ICOMOS Pakistan
19. Ms Neelam Hussain, Professor, Women’s Resource & Publication Centre, Lahore
20. Mr. Khurschid Ahmad, Architect Engineers, Lahore
21. Ms Maryam Hussain, Associate Profession, Fine Arts, Lahore
ANNEX 8: MAPS AND PHOTOS (PPT)

(see following pages)
JOINT UNESCO WORLD HERITAGE CENTRE / ICOMOS
REACTIVE MONITORING MISSION
TO THE FORT AND SHALAMAR GARDENS
IN LAHORE (C171)

PAKISTAN
FROM 23 TO 29 APRIL 2018
Fig. 1. Map of the Walled City showing location of Fort and different monuments and projects
Fig. 2. Aerial view of Lahore Fort
Fig. 3. General plan of Lahore Fort
Fig. 4. Aerial view of the Fort showing location of different areas and projects
Fig. 5. View to southern part of the Fort walls

Fig. 6. View to eastern part of the Fort walls and to Rim Market
Fig. 7. Diwan-e-Aam Quadrangle

Fig. 8. View to Greater Iqbal Park from the Fort
Fig. 9. Akbari Gate
Fig. 10. Diwan-e-Aam
Fig. 11. Doulat Khana e Jahangir
Fig. 12. Diwan-e-Khaas
Fig. 13. The corner tower (Burj) at Diwan-e-Khaas
Fig. 14. Sheesh Mahal
Fig. 15. Sheesh Mahal: wooden ceilings state of conservation
Fig. 16. Sheesh Mahal: aiwan state of conservation
Fig. 17. Sheesh Mahal: interior decoration state of conservation
Fig. 18. Western section of Picture Wall
Fig. 19. Royal Kitchen and new auxiliary construction
Fig. 21. Aerial view of Hazori Bagh with Sikh Temple in right down corner and Royal Kitchen in upper left corner
Fig. 22. “Lahore Fort by Night” programme
Fig. 23. Illumination of Badshahi Mosque
Fig. 24. Shalamar Gardens: Aerial photo, 27.4.2018
Fig. 25. Shalamar Gardens: Aerial photo 27.4.2018 – southern side
Fig. 26. Shalamar Gardens: Destructions during OLMTP construction

Shalamar Gardens south elevation and SW Burji

Old tree before south elevation of the Gardens, destroyed during construction
OLMTP - Oct 2015

Shalamar Hydraulic Tank East Elevation - Oct 2015

Mughal Era brickwork/structure exposed and damaged/destroyed by OLMTP

Shalamar Hydraulic Tank South Elevation in relation to Rd Level

Mughal Era bricks in under construction
OLMTP pile

OLMTP - Oct 2015
Fig. 27. Shalamar Gardens: view from both sides of OLMP viaduct
Fig. 28. Shalamar Gardens: view from metro viaduct and from Naqqar Khana Complex (main entrance)
Fig. 29. Shalamar Gardens: general view of the interior
Fig. 30. Shalamar Gardens: Visual impact from the High Terrace - entrance level
Fig. 31. Shalamar Gardens: Visual impact from the High Terrace - entrance level
Fig. 32. Shalamar Gardens: Visual impact from the High Terrace - 1st level
Fig. 33. Shalamar Gardens: Visual impact from the Lower Terrace - 3rd level
Fig. 34. Shalamar Gardens: Northern end of the Gardens - visual impact
Fig. 35. Shalamar Gardens: Humidity and air pollution impacts on the Perimeter Wall.

Restored part of the deteriorated brickwork.
Fig. 36. The interior surface of the Perimeter Wall. Cracks caused by environmental factors, especially rainwater and alternate drying and shrinkage. Dissolved salts and gases in the air react with the plastered surfaces and have greatly damaged the facades.

Existing condition of the pavilion wall at the northern end of Lower Terrain

Missing original brick pavement on the Sawan Bhadon pavilions
Fig. 37. Eastern and Northern Gateways and NW Burj to the Lower Terrace: Humidity, air pollution, abandonment and visual impacts
Western Gateway to the Lower Terrace

Fig. 38. Destroyed external waterway along the outside façade of the Perimeter Wall, that was part of the Mughal hydraulic system of the Gardens

Built environment in the buffer zone
Fig. 39. Shalamar Gardens: Built environment in the buffer zone
SW corner _ the facade on the GT Road of the part adjusted to the Garden

Fig. 40. The difference between the GT Road level and the south entrance (apr. 1,20m). Note the limited dimensions of the sidewalk.

Protective metal rail on the road along the Perimeter Wall
Fig. 41. Orange Line Metro viaduct and GT Road: existing condition and mitigating proposal.
Fig. 42. Shalamar Gardens south entrance - GT Road - Orange Line Metro viaduct: mitigating proposal (cross-section)
Fig. 43. Mitigating proposal: demolition of buildings on the opposite side of the road
Still standing Mughal pavilion embedded among buildings recognized as Inayat Bagh, connected to Shalamar Hydraulic System.

South entrance to Shalamar gardens station.

Fig. 44. Mitigating proposal: demolition of buildings on the opposite side of the road and upgrading of the Mughal pavilion.
Fig. 45. Wall on Southern side of Shalamar Gardens incorporated the Mughal pavilion - proposal by NESPAK
Fig. 46. Mitigating proposal: demolition of buildings on the turning point of the vertical road.
The part of the GT Road proposed to be a pedestrian area

The motorway to be widened in order to receive the GT Road traffic load

The part of the GT Road before the south elevation of the Gardens proposed to be a pedestrian area

Proposed turning point for the GT Road – east part – Starting area for the proposed pedestrian road

Fig. 47. Mitigating proposal: pedestrian area and traffic arrangements
Fig. 48. Chauburji Gateway (1646), existing condition.
Fig. 50. Buddhu ka Awa, Mughal period tomb, mid 17th c.
Fig. 51. Dai Anga’s Tomb – exterior condition
Fig. 52. Dai Anga’s Tomb – interior condition
Fig. 54. Wazir Khan Mosque

The restored Well of Dina Nath

View of the entryway from Wazir Khan Chowk
Fig. 55. Wazir Khan Mosque
Fig. 56. Wazir Khan Hammam is a Persian-style bath, built in 1635, which has been transformed into a museum.
Fig. 57. Walled city: Improving livelihoods and preserving heritage
Fig. 58. The mission members on meetings in Directorate General of Archaeology, Lahore Fort