



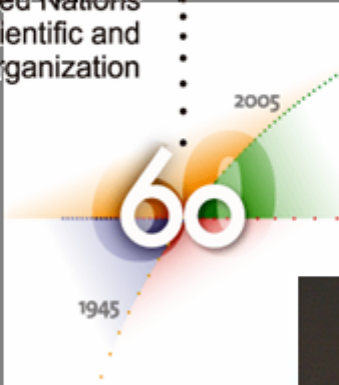
United Nations
Educational, Scientific and
Cultural Organization



Government of Punjab



Getty Foundation



Final donor report

UNESCO Islamabad
November 2006



Conservation and Preservation of **SHALAMAR GARDENS**

A project supported by a grant from Getty Foundation



Foreword

Ever since the Lahore Fort and the Shalamar Gardens were placed in the List of World Heritage Sites in Danger by the World Heritage Committee in the year 2000, there has been increased concern regarding the state of conservation of these sites.

The Culture Section of UNESCO Islamabad was successful in obtaining funds from Norway, the World Heritage Centre (UNESCO Headquarters) and Getty Foundation (USA) for emergency work to be carried out. The Getty Foundation support has been utilized for baseline surveys at the Shalamar Gardens with a view to facilitating the conservation process. The findings have also served as a source of information for the Punjab Government to undertake conservation work at the Gardens.

For the Lahore Fort project, UNESCO Islamabad selected a team of professionals to guide the interventions. For the Shalamar Gardens the same team was considered as well as additional experts in hydraulics, botanical studies and landscaping. The team went beyond the simple compilation of findings and generated a Master Plan for the overall restoration and conservation of the site. The baseline studies also helped to identify conservation priorities, and under the guidance of UNESCO Islamabad, a conservation plan was also prepared. Sharing the findings with the Punjab Government has also allowed the identification of structures for future conservation, using the grant from the Getty Foundation.

The World Heritage Centre provided emergency assistance to the endangered Mughal Chambers in the Shalamar Gardens. Conservation work was carried out in the blocked approaches of the Gardens. The conservation of the Mughal Chambers represents a model for future work in other structures of the Gardens.

UNESCO wishes to take this opportunity to thank the Federal Ministry of Culture and the Provincial Ministry of Culture, Punjab, for their total support and cooperation. The dynamic leadership of the respective Secretaries, Mr. Jalil Abbas and Mr. Taimur Azmat Osman has been instrumental in achieving successfully the above-mentioned tasks.

I hope very sincerely that these efforts will be instrumental in getting the Lahore World Heritage sites removed from the list of World Heritage Sites in Danger.

Jorge Sequeira
Director/Representative

Executive Summary

1.0 Historical background

A brief historical background of the Shalamar Gardens, a World Heritage site, is given in this report, culminating in the inclusion of the site (along with the Lahore Fort) in the list of World Heritage Sites in Danger. This was due to the degradation of the monument, particularly the damage done to the ancient hydraulic system of the Gardens.

This section details the subsequent emergency assistance provided by the World Heritage Centre and the activities undertaken with the grant from Getty Foundation, to initiate a system for the management and conservation for Shalamar Gardens.

2.0 Conceptual and practical framework

While looking at the particular circumstances at the Lahore World Heritage site, the report presents the theoretical approach taken by the study team, when assessing the conditions on ground, prioritizing needs and making recommendations for action.

The report also offers an overview of the current situation regarding the state of conservation of the Shalamar Gardens and the need to go beyond adhoc conservation interventions. Within the given funds, therefore, a Master Plan for Shalamar Gardens was developed to provide a holistic framework for decision-making and implementation of appropriate conservation and management actions.

3.0 Master Plan 2006 – 2011, Shalamar Gardens

The Master Plan developed within the framework of the Getty-funded project, is based on available reports and documents, ICOMOS *Management Guidelines for World Cultural Heritage Sites* (1993), and international best practice, supported by detailed studies carried out by national experts on the following:

- Historical survey of interventions to the plan and design of the site and its landscape and built elements.
- Hydraulic studies of the waterworks, both Mughal and later additions and modification, including collation and analysis of all available data from geophysical remote sensing excavation.
- Architectural studies of built features: condition assessments, history of interventions and baseline survey documentation.
- Inventory and mapping of all existing planting within the garden; noting the distinction between contemporary planting, British period and evidence of possible Mughal period remnant species.
- Assessment of internal infrastructure conditions and issues, including access, waste removal, lighting, electricity, drainage etc.; and recommendations for action.
- Assessment of conditions in the surrounding environment or buffer zone of the site, including encroachments, vehicular traffic, drainage, waste collection etc. and recommendations for action.
- Assessment of monitoring and management regimens at the site and recommendations for improved systems.
- Assessment of current visitation patterns and statistics and recommendations for interpretation and presentation of the site to the public.

These reports are based on extensive research, fieldwork, interviews and professional experience. Each expert was commissioned to carry out the following tasks:

- An assessment of existing conditions and situation analysis.
- Recommendations for prioritized action to address the identified issues.
- Integrated plans for implementation of the recommendations.
- Identification of any additional specialist studies needed to enable implementation of the Master Plan.

4.0 Conservation plan

The last section of the report includes a conservation plan proposed by UNESCO Islamabad, in consultation with the Government of Punjab.

In view of a comprehensive list of the condition of various structures, it is now possible to carry out conservation according to the priority list, thus making sure that endangered structures are provided emergency and stabilization attention as soon as possible, hence prolonging their life considerably.

Background

1.0 Historical background

Shalamar Gardens, a marvel of Mughal garden architecture, is one of the greatest gardens in the world, representing of the Islamic concept of Paradise. The site was inscribed on the World Heritage List, along with Lahore Fort in 1981, for the following outstanding universal values or criteria. The two sites: i) represent a masterpiece of human creative genius; ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design; and ii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.

The three-terraced Shalamar Gardens built in 1642, is a grand manifestation of the ingenuity and craftsmanship of a group of architects, hydrologists, horticulturists, engineers and mastercraftsmen during the reign of Emperor Shah Jahan. Cleverly sited on a naturally terraced terrain, the Gardens run approximately five kilometers north-east of the walled city of Lahore and are enclosed within a high perimeter wall.



Figure 1: A view of the middle terrace of Shalamar Gardens

The importance and significance of the Shalamar Gardens have been acknowledged by its inclusion, jointly with the Lahore Fort, on UNESCO World Heritage List. It was however, inscribed without a management plan. Today, negative impacts from environmental degradation, visitor usage, ill-advised interventions and the passage of time are increasing without appropriate response.

A comprehensive Master Plan was urgently required to ensure that the cultural heritage significance of the Gardens is not compromised and that the values for which the site was inscribed are not irretrievably lost.

In 1999, the unique hydraulic system of the gardens was demolished in an attempt to widen the Grand Trunk road, where the Shalamar Gardens is now situated. Following this unfortunate incident the Shalamar Gardens, along with Lahore Fort were placed on the list of World Heritage in Danger.

1.1 Emergency assistance from World Heritage Centre

Following a call from the Government of Pakistan to provide emergency assistance for the World Heritage site, UNESCO's World Heritage Centre (WHC) offered US\$ 50,000 to stabilize the most endangered structures. A work plan was prepared and submitted to the WHC through UNESCO Islamabad for consideration. UNESCO Islamabad proposed to undertake the

conservation of Mughal Chambers due to their poor state of conservation. The work was however forestalled, as there was a need for scientific studies and experiments to be carried out prior to any conservation attempt.

1.2 Getty Foundation

The J. Paul Getty Trust is an international cultural and philanthropic institution devoted to the visual arts that features the Getty Conservation Institute, the Getty Foundation, the J. Paul Getty Museum, and the Getty Research Institute. The J.Paul Getty Trust and Getty programmes serve a varied audience from two locations: the Getty Centre in Los Angeles and the Getty Villa in Malibu.

UNESCO Islamabad applied for the Getty Foundation Architectural Conservation and Planning Grant, to carry out baseline surveys and identify conservation needs at the Shalamar Gardens. Funds from Getty Foundation came around the same time as Emergency Assistance from WHC in early 2005. The dual source of funding provided considerable support to initiate a systematic process of conservation at the Shalamar Gardens, based on scientific studies and evidence.

While funds from WHC were to be used for the stabilization and conservation of Mughal Chambers, the grant from Getty Foundation helped in undertaking studies in various disciplines crucial for the management and maintenance of the Shalamar Gardens in the long run.

Comprehensive graphic and photographic documentation was carried out through detailed field work and surveys. The trained personnel were provided the guidelines according to which field work was undertaken.

Structural stability tests were also carried out on various structures, envisaged to be conserved during the implementation period, following the planning phase.



Figure 2: Perimeter wall -Decayed tile mosaic and plaster work on the gate

Conceptual and practical framework

2.0 Introduction to the project

This report on the Conservation and Restoration of the World Heritage site of Shalimar Gardens is the result of an initiative by UNESCO Islamabad and the Government of Punjab, with funds from Getty Foundation. It has been prepared in accordance with the terms of reference reflected in the Grants Programme and set out in the Getty Foundation-UNESCO agreement.

2.1 Objectives

The overall objective of the baseline study on Shalimar Gardens was to prepare a conservation plan for the Gardens in line with the findings and recommendations of the experts involved in the project.

The project team adopted a vision statement for Shalamar Gardens stating: *“Shalamar Bagh (Garden) should be treated as a single design entity consisting of stepped garden terraces linked by water features and alignments, built elements and linkages. The conservation and safeguarding of the historic resource should be central to all discussion relating to the garden. The methodologies adopted should aim at presentation of the essence and reality of a Mughal garden and infusion of a new dynamism – developing a sense of historicity and continuity from the past to the future”*. The vision enabled the team to move way beyond the stated objective and develop a Master Plan to provide a holistic framework for the implementation of conservation and management actions for relevant stakeholders.

2.2 Cooperation from stakeholders

During the project period, a wide range of stakeholders were consulted through a series of meetings, on-site interviews and discussions and continuing communications.

The consultations continued as the project progressed, in order to ensure that the needs and interests of all parties were adequately represented.

UNESCO Islamabad received unrestrained cooperation from the Federal and Provincial Ministries of Culture, Government of Pakistan, during the execution of the project. As the management of the Lahore World Heritage sites (both Shalamar Gardens and Lahore Fort) has been handed over to the Punjab Government since January 2005, UNESCO Islamabad has been working closely with the provincial Ministry of Culture and Department of Archaeology and Museum. In consultation with the Government of Punjab, UNESCO Islamabad has developed a conservation plan for the Shalamar Gardens. During an informal meeting with stakeholders, it was agreed that the Government of Punjab would undertake the conservation of some structures adhering to the recommendations given in the Master Plan. UNESCO Islamabad would apply to Getty Foundation for ‘implementation grants’ whereby, the Royal Bath (Shahi Hamam), the Eastern and the Western Gateways would be conserved.



Figure 2: Entrance Shahi Hamam (Royal Bath)



Figure 3: Eastern Gateway – tile work

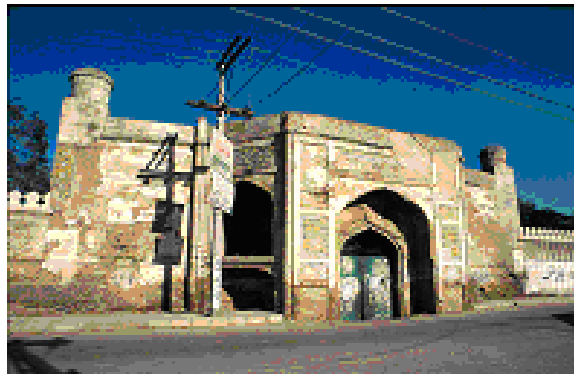


Figure 4: Western door

2.3 Project team

The team involved in executing the planning phase of the Getty-funded project comprised:

UNESCO

- Ms. Farhat Gul, Project Manager

National Experts

- Ms. Yasmeen Lari, National Adviser/Documentation

- Prof. Sajida Haider Vandal, Technical Adviser, Master Plan
- Dr. Pamela Rogers, International Consultant, Master Plan
- Mr. Saleem ul Haq, National Project Coordinator
- Mr. Maqsood Ahmed Malik, Deputy National Project Coordinator

Specialists

- Dr. Mahmood Hussain, Monitoring and Management
- Ms. Fauzia Qureshi, Environmental Issues and Physical Infrastructure
- Prof. Sajjad Kausar, Historical Development and Landscape Issues
- Mr. Bashir Ahmed, Hydraulics and Water Supply
- Mr. Raza Bhatti, Horticulture and Botanical Aspects
- Dr. Pamela Rogers, Shalamar Tourism Strategy

Documentation Centre

- Mr. Rustam Khan, Incharge Documentation Centre, Lahore Fort
- Mr. Hafiz Arif, Draftsman
- Amjad Pervaiz, Draftsman
- Mr. Sajjad Butt, Photographer
- Mr. Sajid Naseer, Computer Operator

The valuable contribution and cooperation of the above mentioned staff is gratefully acknowledged.

Work process

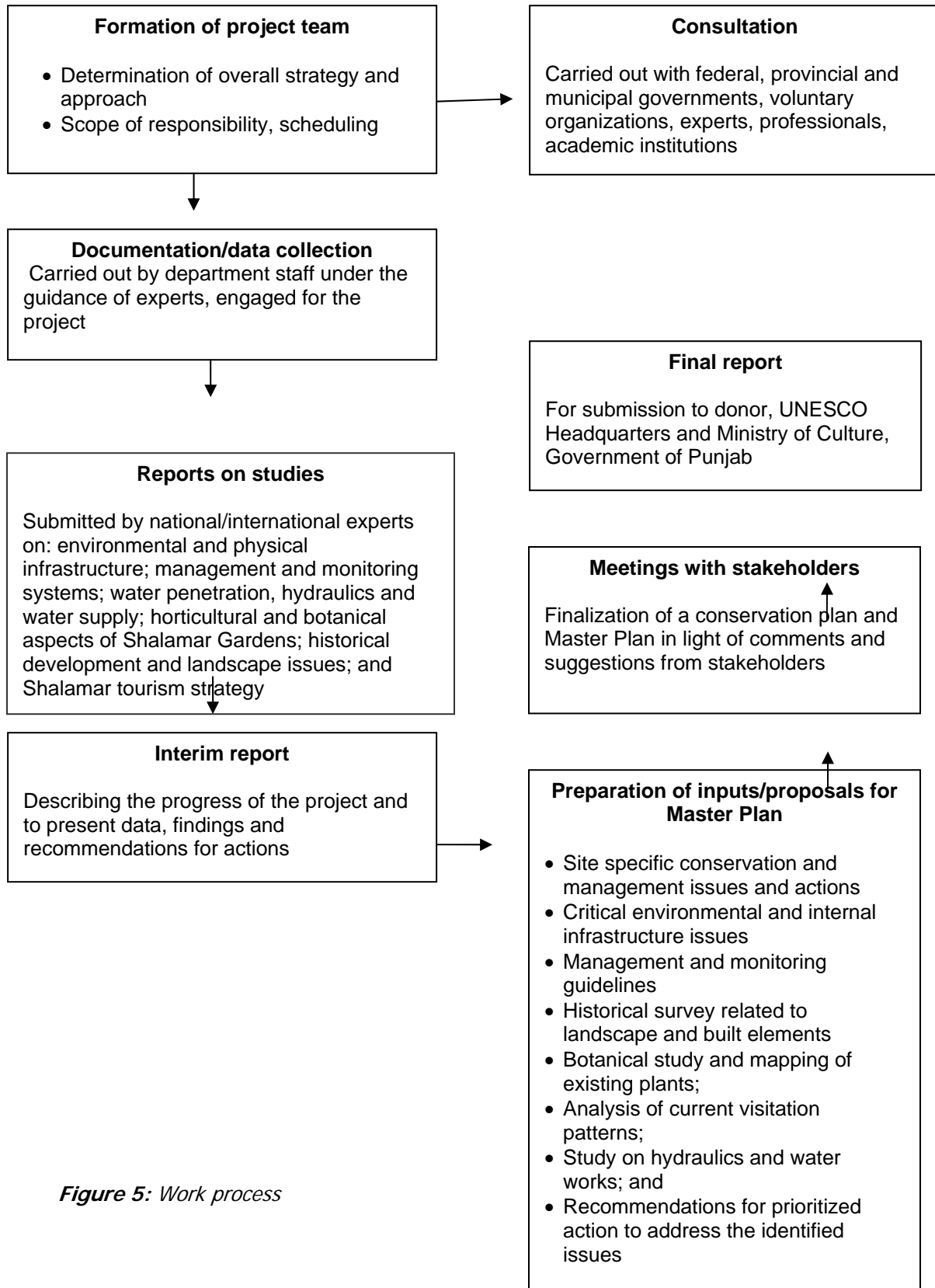


Figure 5: Work process

2.3 State of conservation and management of the Shalamar Gardens

2.3.1 General state of conservation and management*

The conservation and management of the Shalamar Garden has four key components – management of the gardens and hydraulic system, conservation and management of different structures within the Garden, conservation of the boundary walls and visitor management. In the absence of any management plan for the site, it was difficult to comprehend the current management process for the Shalamar Garden. From the discussions with the government officials responsible for taking care of the site, it was understood that the entire management system for the site works on an ad-hoc basis. Although a new management plan (Shalamar Gardens Master Plan) is being prepared, the authority is already planning new major projects (e.g. laying of new hydraulic system for the entire garden) that could wait for the approval of the new management plan.

A general lack of care is evident in the condition of the garden and the hydraulic system. The pavilions and other structures are also not well maintained. The beautiful marble cascades are not regularly cleaned and now they have almost permanent stain marks on it. Because the stains had sufficient time to get hardened, the subsequent cleaning took more efforts. The mission team has learned that to remove the stains, the authority used sand during brushing. A close inspection revealed that this method is already damaging the delicate marble surface.

Like in Lahore Fort, neglect of buildings not belonging to Mughal period is also noticeable in Shalamar Garden. The so-called Moorcroft Building, situated right next to the summer hall, was constructed during the Sikh period. However, this structure is now near collapse due to lack of maintenance and care.

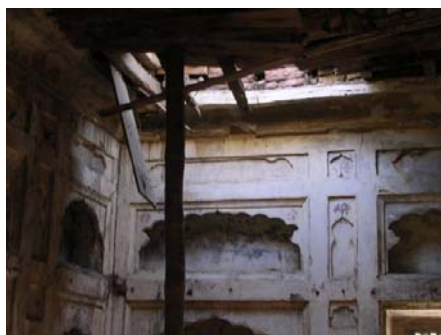


Figure 6: The Moorcroft building

* As described in the Report of the Joint ICOMOS-UNESCO Reactive Monitoring Mission to the Fort and the Shalamar Gardens World Heritage Site in Lahore, Pakistan (29 November – 03 December 2005)

2.3.2 Property boundary and buffer zone

After the hydraulic works, the boundary wall is the least protected part of the garden. Again, an effect of long-term neglect is clearly evident on the appearance of the wall (Figure 7). There is also the problem of rising damp due to increased elevation of the areas around the garden. The frescos and beautiful coloured stonework on the outer surface of the wall has no protection. Most of the terracotta hydraulic system along the wall is destroyed and rubbish is being dumped on the side of the wall. The mission team also witnessed a boy climbing up the wall to get inside the garden (Figure 7). In Hadi Saliba's report, a detailed outline proposal complete with sketches was provided to solve the rising damp problem by creating a perimeter drain around the site. The report also identified the buildings to be removed to reduce the impact of encroachment on the eastern and northern side of the garden. The mission team was informed by the officials from the Punjab Directorate of Archaeology that they are currently working on the implementation of the proposals from the report. However, no specific timeframe was provided.



Figure 7: Shalamar Garden boundary seen from outside

2.3.3 Other structures needing immediate attention

The Naqqar Khana

The Naqqar Khana pavilion, which faces the Khawab Gah (queen's pavilion) across the upper terrace (Farah Baksh), is thought to have been originally used for military displays involving music incorporating kettle drums. The enclosure behind it was originally a separate historic garden, which has been purchased by the Government of Pakistan, lies outside the World Heritage Site boundary and has its own entrance opening onto the Grand Trunk Road. The gardens also contain an open pavilion with an arched-back roof (arz bogi) originally derived from the design of bamboo structures in Bengal.

The Naqqar Khana enclosure is in a run-down condition and has no current beneficial use. The Naqqar Khana pavilion itself has been in a derelict and partly collapsed condition, now partly rectified. The pavilion with the arz bogi roof has serious cracks in the masonry which require stitching.

Hydraulics system located at the southern periphery

The hydraulics system consists of several chambers built in brick masonry, which carried the original water supply and filtration tanks. The building received excessive damage due to the widening of the Grand Trunk Road. The remaining structure has suffered further damage due to its exposed condition. Funding is being sought to consolidate the remains and the extant portions protected from further damage.

Northern perimeter wall (with fragments of original fresco)

The brick masonry perimeter walls with a length of over 5,700' and a height of 17', are at risk. The northern perimeter wall is particularly vulnerable due to pilferage, graffiti, vandalism and weathering. Funding is being sought to carry out preventive conservation of brick masonry, protection of remnants of fresco, along with measures for halting water penetration from the top and ground level.

Eastern and Western gateways

These brick masonry gateways with lofty iwan portals, rising to a height of 30'0" have been adversely damaged through lack of care, vagaries of weather and vandalism. The damage to brick masonry and tile mosaic has occurred due to its exposed condition and lack of maintenance. Funds are required for the restoration of brick work, repairs to the extant tile mosaic, sealing of water seepage from the roof and ground level.

Shahi Hammam (Royal Bath)

The Hammam is among the rare examples of its type and has been in a state of neglect for a long time. The brick masonry single storey structure covers an area over 3,500 sq. ft consists of single storey chambers. It is in a highly damaged state. Funds are needed to carry out major works consisting of consolidation, repair and conservation to brick masonry, remains of fresco painting, providing water tightness in joints, roof and at ground level etc.

2.4 Project implementation

During the planning phase, the Getty Grants enabled UNESCO and its implementing partners to undertake the following:

- Topographical survey of the Shalamar Gardens
- Graphic and photographic documentation
- Studies in various disciplines to identify conservation needs and priorities
- Master Plan developed for the conservation and preservation of the Shalamar Gardens

i) Topographical survey

A topographical survey of the Shalamar Gardens was carried out in early 2005. The terms of reference for the survey included detailed information comprising extent of paving, water channels and plantation, footprints of all structures and invert levels relating to the historic site as well as the surrounding area. It was for the first time that a survey map of the historic site was prepared. The survey map was also utilized during the preparation of the Master Plan/Management Plan.

The hydraulic tanks located on the southern periphery of the Gardens were demolished in 1998, in an attempt to widen the Grand Trunk Road. The survey was designed to provide sufficient information so that issues related to the rehabilitation of the buffer zone around the historic site, could also be addressed.

On the basis of earlier reports prepared by UNESCO Islamabad, the Government of Punjab is planning to undertake the diversion of the Grand Trunk Road (south) in order that the historic tanks and the hydraulics system could be rehabilitated.

The survey drawing will help the Government of Punjab in the following:

- Provide details of areas to be included in the traffic diversion plan on the south to enable inclusion of the remains of the hydraulics tanks in the Shalamar Gardens historic site.
- Marking of encroachments on the eastern periphery to initiate a process of clearance in order to provide at least 45 feet of clear space for creation of a pedestrian pathway.
- Establish elevation levels outside and inside the Shalamar Gardens in order to lower the peripheral road levels to help reduce further deterioration of the perimeter walls.

ii) **Graphic and photographic documentation**

A numbering system for the documentation of the Shalamar Gardens has been developed by Heritage Foundation Pakistan, according to which numbers are assigned to each landscape and building element. In the past several documentation efforts had been carried out, which related to particular areas. Some archival drawings prepared during the British period were also located in the Federal Department of Archaeology and Museums. However, in order to develop baseline information, it was decided to carry out comprehensive graphic and photographic documentation, through detailed field work and surveys. The trained personnel were provided the guidelines according to which field work was undertaken.

The Shalamar Gardens primarily consists of three distinct descending terraces and an area known as the Naqqar Khana. The numbering system accordingly takes into account the present configuration of the Gardens. All elements are numbered based on their location whether in the First (Upper), Second (Middle), Third (Lower) Terrace, or in the Naqqar Khana.

a) Spatial numbers

- First (Upper) Terrace elements begin with '1'
- Second (Middle) Terrace elements begin with '2'
- Third (Lower) Terrace elements begin with '3'
- Naqqar Khana elements begin with '4'

b) Element numbers

- All path elements carry a prefix 'P'
- All channels/water courses carry a prefix 'C'
- All plantation areas carry a prefix 'G'
- All structures carry a prefix 'S'

Thus, the paths in the First Terrace are numbered in the series of 1.P.1 etc. The channels/water courses in the Second Terrace are numbered 2.C.1 etc.

In addition to drawings, a volume consisting of extracts from Archaeological Survey Reports has also been prepared. The dossier contains relevant information regarding various interventions that were carried out during the British and post-Independence periods.

iii) Studies in various disciplines to identify conservation needs and priorities*

Parallel to the documentation process, baseline studies were carried out by national experts in:

- Environmental issues and physical infrastructure – Ms. Fauzia Qureshi, Head of Architecture Department, National College of Arts, Lahore
- Monitoring and management guidelines; Water penetration – Dr. Mahmood Hussain, Dean of Faculty of Architecture, University of Engineering and Technology, Lahore
- Hydraulics and water supply – Mr. Bashir Ahmed, Hydrology Expert, NESPAK, Lahore
- Horticulture and botanical aspects of the Gardens – Dr. Raza Bhatti, Professor of Botany, University of Khairpur, Khairpur
- Historical development and landscape issues – Prof. Sajjad Kausar, Landscape Architect, National College of Arts, Lahore
- Shalamar tourism strategy – Dr. Pamela Rogers, Director, Archaeological Assessment, Hong Kong

The NGO, Heritage Foundation developed formats and guidelines for photographic and graphic documentation, while, Prof. Sajida Vandal, Principal, National College of Arts, Lahore and Dr. Pamela Rogers collated, compiled and edited all inputs from the experts and included them in the Master Plan.

* Reports on the studies can be provided by UNESCO Islamabad if required

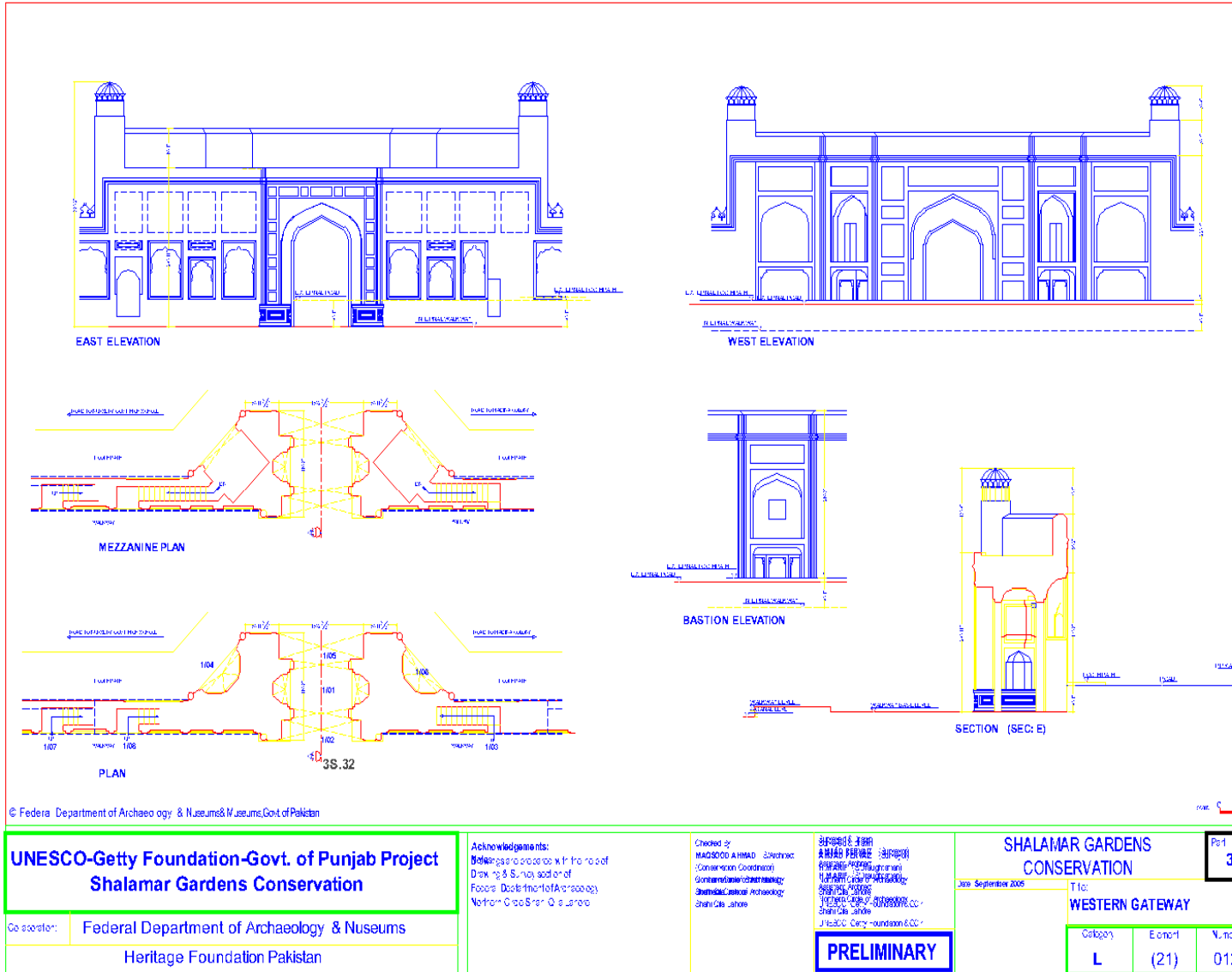


Figure 8: Documented drawings of 3rd Terrace

Master Plan 2006-2011, Shalamar Bagh

3.0 Master Plan 2006-2011, Shalamar Gardens

The project team adopted a theoretical approach while contributing to the design of the Shalamar Gardens Master Plan. The recommendations were based on the principle stated in the *Burra Charter* (Article 2.2) that the single most important aim of conservation is to retain the cultural significance or authenticity of a place, the “aesthetic, historic, scientific, social or spiritual value for past, present or future generations”.

The Master Plan also takes into consideration the pivotal importance of research and detailed documentation to the conservation process:

“Decisions regarding the type and extent of intervention carried out as part of a conservation plan should only be taken after extensive research, expert discussion and weighing of conservation options”. (*HAP, 4.1.6*)

“No restoration work and, above all, no reconstruction work on an historic garden shall be undertaken without thorough prior research to ensure that such work is scientifically executed and which will involve everything from excavation to the assembling of records relating to the garden in question and to similar gardens”. (*Florence Charter, Article 15*)

In accordance with the *Burra Charter, Article 3.1*, the project team adhered to the principle of sustainability, emphasizing that all programmes and action plans addressing the protection and maintenance of the Shalamar Gardens must be sustainable.

Following regular consultations and meetings, the team agreed on the following approach:

- An assessment of which level/s of conservation are appropriate should be carried out before taking and decision
- The assessment should be based on authentic information and full documentation
- This can be supported /assisted by following international standards and guidelines of conservation
- All decisions should include reference to these standards and should be made after full discussion between the custodians of the site, UNESCO and the project Management Team
- All decisions to be publicized for public comment

The Master Plan developed within the framework of the Getty-funded project, is based on available reports and documents, ICOMOS *Management Guidelines for World Cultural Heritage Sites* (1993), and international best practice, supported by detailed studies carried out by national experts on the following:

- Historical survey of interventions to the plan and design of the site and its landscape and built elements;
- Hydraulic studies of the waterworks, both Mughal and later additions and modification, including collation and analysis of all available data from geophysical remote sensing excavation;
- Architectural studies of built features: condition assessments, history of interventions and baseline survey documentation;
- Inventory and mapping of all existing planting within the garden; noting the distinction between contemporary planting, British period and evidence of possible Mughal period remnant species;
- Assessment of internal infrastructure conditions and issues, including access, waste removal, lighting, electricity, drainage etc. ; and recommendations for action;
- Assessment of conditions in the surrounding environment or buffer zone of the site, including encroachments, vehicular traffic, drainage, waste collection etc. and recommendations for action;
- Assessment of monitoring and management regimens at the site and recommendations for improved systems;
- Assessment of current visitation patterns and statistics and recommendations for interpretation and presentation of the site to the public.

These reports are based on extensive research, fieldwork, interviews and professional experience. Each expert was commissioned to carry out the following tasks:

- An assessment of existing conditions and situation analysis;
- Recommendations for prioritized action to address the identified issues;
- Integrated plans for implementation of the recommendations;
- Identification of any additional specialist studies needed to enable implementation of the Master Plan.

The Master Plan consists of a series of integrated action plans developed from experts' input and designed to address various issues. These actions constitute the key processes of cultural resource management at the Shalamar Gardens, which aim to achieve the vision set out for the future of the World Heritage site in both short and longer term.

Short term vision

The short term vision for the first three years seeks to:

- Identify features of the garden in need of emergency action and to design and implement first aid measures.
- Take all steps necessary to arrest further degradation of the site.
- Initiate changes in the horticulture of the garden by implementing the initial phases of the Plantation Plan.
- Initiate changes in the hydraulic system of the garden by implementing the initial phase of the Hydraulic System proposals.
- Put in place standard operating procedures for basic tasks carried out as part of conservation and management of the garden.
- Involve a wide range of stakeholders in decision-making and frame that decision-making in the context of national and international standards of best practice.
- Address those environmental issues which can be addressed using existing mechanisms and start to formulate new approaches to solving problems, which require new partnerships and initiatives.
- Put in place monitoring and maintenance systems as the basis of sound conservation management.
- Set a design standard for information display and signage, to put basic, first step displays in place and provide maps, brochures and other sources of information for visitors.
- Create a mechanism for community and youth outreach on a regular basis and to propose schemes for local community benefit derived from the World Heritage site.
- Create a framework for continuing research to form the basis of presentation of authentic information.
- Develop a mechanism for ensuring well-looked after and clean premises and grounds.

Longer term vision

In the longer term, the Master Plan seeks to:

- Achieve the highest standards of conservation of all remaining historical elements of the site in order to preserve the cultural significance and authenticity of the site.
- Develop a holistic, efficient and practicable management strategy for the garden.
- Upgrade the environment in and around the World Heritage site, based on a series of protective zones.

- Enhance the visitor enjoyment and understanding of the history and significance of the site within its contemporary context.

3.1 Key recommendations

- Formation of a site commission to ensure effective management of the World Heritage sites.
- Creation of World Heritage site Lahore Endowment Fund and project specific funds.
- A trained and informed management team, who understands the overall conservation objectives and priorities.
- Core competency training for all levels of staff to upgrade skills and build capacity within the Department.
- Full and accessible documentation of all aspects of the site.
- UNESCO assistance in creating a support network of international collaboration and interaction.
- Integrated plan for monitoring and maintenance of various aspects of the Shalamar Gardens.
- Furthering research and understanding of the World Heritage site.
- Development of an interpretive plan and policy for visitors and monitoring the ongoing impacts of visitation on the site.
- Restoration of the historical relationship between the Shalamar Gardens and adjacent former garden site.
- Revitalization of the environs of the Shalamar Gardens and definition of a viable buffer zone.



Figure 9: Land use in the immediate environs of the site

Conservation plan

4.0 Conservation priorities

A list of conservation priorities has been prepared by experts following careful evaluation of buildings and structures, including the Condition Surveys. It has identified some structures that are at risk of failure unless immediate action is taken, while others are basically stable and only in need of long-term conservation. The list divides work into three levels of priority:

Priority 1 actions include all emergency and stabilization works

Priority 2 includes preventive conservation action

Priority 3 includes ongoing conservation needs

In view of a comprehensive list of condition of various structures, it is now possible to carry out conservation according to the priority list, thus making sure that endangered structures are provided emergency and stabilization attention as soon as possible, hence prolonging their life considerably.

4.1 Conservation plan

During a one-day meeting with the stakeholders, a conservation plan was drawn out jointly by UNESCO and the Ministry of Culture, Government of Punjab.

Naqqar Khana: The Department of Archaeology and Museums, Government of Punjab has already initiated a process for the conservation of Naqqar Khana. The work is however, being undertaken in consultation with UNESCO and in accordance with the internationally acceptable standards of conservation.

Moorcroft building: Measures are being adopted for stabilization of the Moorcroft building. The decayed wooden battens and damaged tile roofing will be replaced after full documentation of the existing features. The decayed lime plaster on the exterior and interior will be preserved/restored, depending upon the decision taken by conservation experts.

Summer pavilion: First aid measures are being provided to restore the summer pavilion. Restoration work with cement plaster done in the past will be scrapped off and redone with kankar lime, the original traditional material used during Mughal times. Water proofing of the roof will also be done to eliminate water seepage.

Shah Jahan's Chamber: Successive layers of lime wash will be scrapped off to expose original surface;
Cement plaster will be dismantled; stucco tracery work will be restored/preserved as per experts' opinions.

Pavements: Restoration work on the bricked pavements is also underway with government's yearly allocations.

Hydraulic system: The Government of Punjab is planning to consolidate the existing structures of the damaged hydraulic system; fencing of the area; and development of the area between the diverted road and perimeter wall.

Perimeter wall: RCC drains will be provided on the exterior of the perimeter wall and plinth protection; provision of iron grill along the drain; restoration of missing merlons; dismantling of existing cement concrete stucco plaster from the walls; restoration of undermined and decayed brick masonry with original size of bricks laid in kankar lime mortar; water tightening of top of the perimeter wall; preservation of fresco painting on the exterior of the northern wall.

Dividing walls: The Sikh period railing will be restored as per existing design on dwarf wall; the decayed red sandstone veneer of dividing walls will be restored.

4.2 Implementation Grant from Getty Foundation

In the first phase, it is considered that selected historic buildings and structures, which are greatly at risk should be taken up first for conservation. Thus, the following buildings and structures have been identified for consolidation, preventive conservation and where possible, conservation of original Mughal period elements:

- a. Northern Perimeter Wall (with fragments of original fresco)
- b. Eastern and Western Gateways
- c. Mughal period Hammam (Bath)

Northern perimeter wall (with fragments of original fresco)

The brick masonry perimeter walls with a length of over 5,700' and a height of 17', are at risk. The northern perimeter wall is particularly vulnerable due to pilferage, graffiti, vandalism and weathering. Funding is being sought to carry out preventive conservation of brick masonry, protection of remnants of fresco, along with measures for halting water penetration from the top and ground level.

Eastern and Western gateways

These brick masonry gateways with lofty iwan portals, rising to a height of 30'0" have been adversely damaged through lack of care, vagaries of weather and vandalism. The damage to brick masonry and tile mosaic has occurred due to its exposed condition and lack of maintenance. Funds are required for the restoration of brick work, repairs to the extant tile mosaic, sealing of water seepage from the roof and ground level.

Shahi Hammam (Royal Bath)

The Hammam is among the rare examples of its type and has been in a state of neglect for a long time. The brick masonry single storey structure covers an area over 3,500 sq. ft consists of single storey chambers. It is in a highly damaged state. Funds are needed to carry out major works consisting of consolidation, repair and conservation to brick masonry, remains of fresco painting, providing water tightness in joints, roof and at ground level etc.

The documentation process is already underway, as the Getty Grant has created the opportunity to train Punjab Government staff in documentation and developing base line data. Similarly, the conservation work expected to be undertaken through Getty Implementation Grant will provide the opportunity to train Punjab Government personnel in conservation procedures by providing hands on experience. Thus, the consolidation and conservation programme will ensure that the most important original buildings and structures are conserved; at the same time, the procedures and guidelines laid down will form the basis of all works that are undertaken in the future.



Figure 10: Eastern Gateway



Figure 11: Western Gateway



Figure 12: Shahi Hamam (Royal Bath)

4.3 Conclusion

The existing structures in Shalamar Gardens have very few original decorations of Mughal times. The factors responsible are many, such as:

- Unsettled conditions of the 18th century
- Vandalism
- Neglect
- Poor or faulty restoration attempts

The present state of the buildings owes much to the experience each structure has gone through over time. However, one defect is common in the buildings and that is the typical crack observed at the crown of arches. The solution can differ depending upon the extent and type of damage.

The project went way beyond the objective stated in the project document and the Getty-UNESCO agreement. Besides preparing a short-term conservation plan for the World Heritage site, the project team developed a Master Plan 2006-2011, Shalamar Gardens, providing a holistic framework for decision-making and for the implementation of appropriate conservation and management actions.

The Shalamar Gardens are an integral part of urban Lahore and many of the issues concerning its preservation and presentation must be addressed at a city, provincial and /or national level. The Master Plan attempts to identify the role and responsibilities of all stakeholders and to propose systems for liaison and cooperation

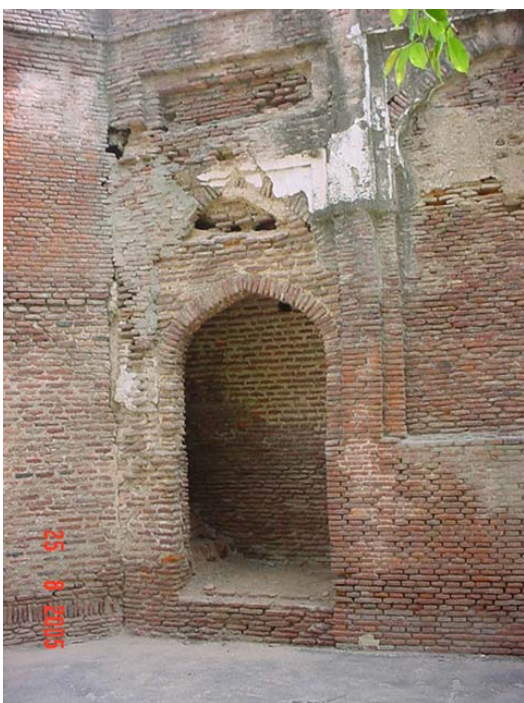


Figure 13: *Water penetration problems*

The Government of Punjab is planning the conservation of the structures within and outside the Shalamar Gardens in consultation with UNESCO and the staff trained through the project. The provincial Ministry of Culture is also ready to incorporate the recommendations of the Master Plan in its PC1s* on the conservation and maintenance of Shalamar Gardens and use it as a reference document for the preservation of other cultural heritage sites of national and international significance.

Jorge Sequeira
Director/Representative

* Official project proposals submitted by governmental departments and approved by the Planning Commission, Government of Pakistan