

Humayun's Tomb Complex

DELHI, INDIA

The tomb of the second Mughal emperor, Humayun, one of the twenty-seven UNESCO World Heritage Sites in India, was the first of the monumental mausoleums to be built in the country. The *chahar-bagh*, or four-part paradise garden, is the earliest existing example of the Mughal garden tomb. The Tomb and Garden are considered one of the precursors of the Taj Mahal.

The restoration of the Garden was the first privately funded restoration of a World Heritage Site in India and was completed in March 2003 through the joint efforts of the Aga Khan Trust for Culture (AKTC) and the Archaeological Survey of India under the aegis of the National Culture Fund. The objective of the project was to revitalize the gardens, pathways, fountains and water channels of the *chahar-bagh* surrounding Humayun's Tomb according to the original plans of the builders.

The Garden is laid out in a classical *chahar-bagh* pattern. It is divided into quarters by raised causeways. The quadrants are divided, in turn, into eight plots, each with walkways. At the intersection of these walkways are octagonal or rectangular pools. Site works encompassed a variety of disciplines, including archaeological excavation, the application of conservation science and hydraulic engineering. Following the restoration of the Garden, visitor numbers increased tenfold. Building on the success of this project, in 2007 AKTC signed a 'Public-Private Partnership Agreement' to undertake the restoration of Humayun's Tomb complex.

Emperor Humayun was the son of Babur, the founder of the Mughal Empire. His tomb was built over nearly a decade beginning in about 1565. Influenced by Persian architecture, the Tomb stands on a 120-square-metre platform and reaches a height of forty-seven metres. Built of rubble masonry, the structure is the earliest example of the use of red sandstone and white marble in such great quantities.

Humayun's Tomb complex and its surrounding areas cover almost twenty-four hectares of land and include several significant monuments, such as Isa Khan's Tomb enclosure, Afsarwala Tomb and Mosque, the Arab Serai, Bu Halima's Tomb and several monumental gateways.

Exhaustive archival research, documentation using state-of-the-art laser scanning technology, condition assessment and structural analysis preceded



The central water channel and pool in the gardens of Humayun's Tomb complex in Delhi were restored by AKTC in 2003.

Opposite page:
Above, the restored plinth appears in a general view of Humayun's Tomb.

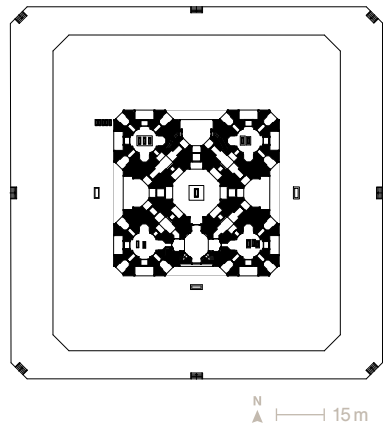
Below, work being done on Barber's Tomb in the gardens of Humayun's Tomb complex, a World Heritage Site.



Project Scope/Objectives

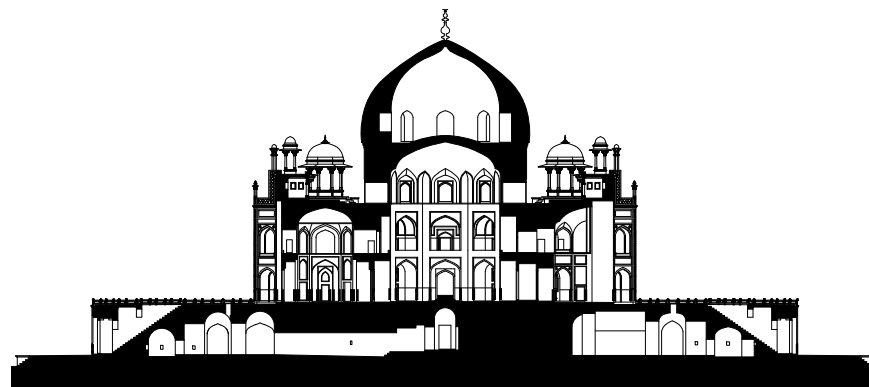
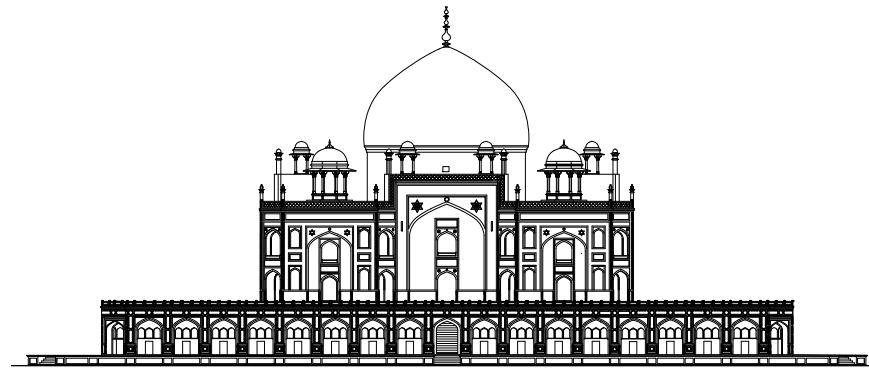
Humayun's Tomb complex is a UNESCO World Heritage Site. The mausoleum and its peripheral buildings were found to be in urgent need of conservation in order to retard deterioration and enhance the cultural significance of the building. The conservation process emphasizes original crafts and skills and aims to revive dying techniques and traditional art forms. The project includes the integrated development of the surrounding open spaces, provision for visitor facilities and an interpretation centre.





Above, the floor plan of Humayun's Tomb which stands on a 120-square-metre platform and reaches a height of 47 metres.

Right, its elevation and section.



15 m

the preparation of conservation proposals. Conservation works commenced in April 2008 and included restoration of the mausoleum, the monumental gateways, pavilions and tomb structures. The project also includes the integrated development of the surrounding open spaces and provision of visitor facilities and an interpretation centre.

The project vision is to link up the Tomb complex with the site where the Nila Gumbad, a seventeenth-century tomb, also restored by AKTC, is located, just outside the eastern enclosure wall, and Sunder Nursery, which the Trust is converting into a park. Together, this ensemble will create a vast area of monuments, green space, facilities and services.

Once completed, the restoration of Humayun's Tomb complex will return a significant amount of enhanced green space to the city and the surrounding community, with its constituent parts returned to their historically authentic format. The project is expected to increase interest in and visits to the Tomb, the Garden and the associated visitor facilities, which together form a large complex next to a major urban highway in Delhi. It will serve the local residents of Nizamuddin district as a community green area on one level, and the population of Greater Delhi as well as tourists on another level. Humayun's Tomb and Garden has rekindled interest in the rich history of Mughal rule and presents Delhi's heritage in a dignified and cohesive setting worthy of this capital city.

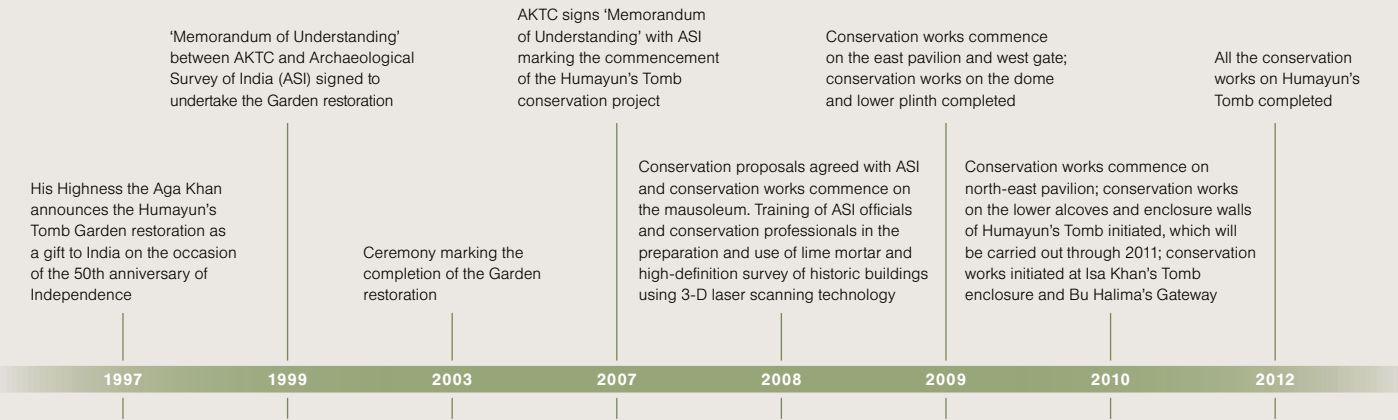
Opposite page:

The first part of the project involved the revitalization of the Tomb Garden which is laid out in a classic *chahar-bagh* pattern. Here, people relax on benches.





Phasing 1997 → 2012



Background

BRIEF HISTORY OF PROJECT SITE
Since it is considered auspicious to be buried near a saint's grave, following the burial of Hazrat Nizamuddin Auliya this area saw seven centuries of tomb building. The greatest is Humayun's Tomb. The complex now includes several other prominent buildings such as Isa Khan's Tomb enclosure, Bu Halima's Tomb, Nila Gumbad and tombs in the Batashewala complex, all dating from the 16th–early 17th century. The Arab Serai, originally part of the complex, today functions as an Industrial Training Institute. The Yamuna River, on the banks of which Humayun's Tomb was built, shifted eastwards in the 19th century leaving the site landlocked. Humayun's Tomb became a World Heritage Site in 1993.

Challenges

PROJECT RISKS
All conservation works at the World Heritage Site are undertaken as part of an established process that ensures cultural significance is retained and visitor experience is enhanced. Almost a million tourists and school children visit Humayun's Tomb annually and as such all works are carried out in a manner that causes minimum disturbance to visitors.

SITE CONDITIONS
Because of the large number of visitors, vehicular and machine movement is not possible within the complex. Manual movement of material is the only other option; it often requires a group of 20 craftsmen a whole day to lift a single piece of stone to the roof. On a larger scale, the inappropriate earlier application of concrete removed from the roof of Humayun's Tomb and the earth expected to be removed from the Isa Khan–Bu Halima complex pose significant logistical challenges.

BUILDING CONDITIONS
Most monuments within the complex are in urgent need of conservation works ranging from removal of 20th-century cement and concrete to stitching of cracks and restoring missing plaster, stones and ceramic tiles.

Significant Issues and Impact

DATA COLLECTION/SURVEYS
Conservation works at Humayun's Tomb commenced following the peer review and approval of the 'Conservation Plan' in May 2008. The 'Conservation Plan' included detailed measured drawings of all structures utilizing high-definition 3D Laser scanning equipment, research of archival photographs, drafting of a statement of significance and detailed conservation proposals on the basis of national and international conservation charters.

HISTORIC BUILDINGS/MONUMENTS CONSERVED
Conservation works are ongoing on Humayun's Tomb and its attached gateways, pavilions and enclosure walls. Work has now commenced on Isa Khan's Tomb enclosure.

NEW BUILDING FACILITIES
An interpretation centre is proposed at the entrance zone of Humayun's Tomb complex.

COMMUNITY INVOLVEMENT/PROGRAMME
Youth from Hazrat Nizamuddin Basti are being trained to become tour guides for visitors to Humayun's Tomb and adjoining sites. Also women, from Nizamuddin Basti, are being trained to learn craft techniques such as paper cutting that will enable them to make products inspired from motifs on the monuments for sale to tourists.

VOCATIONAL TRAINING/CAPACITY BUILDING
The project is being used as a platform for training of conservation professionals and craftsmen. Regular training workshops on the use of lime mortar have been attended by over 150 officers of the Archaeological Survey of India from countrywide locations. To mitigate risks a craftsmen training programme has been included in the programme and monthly reviews of work are held by a panel of experts with annual independent peer reviews.

CONTRACTING METHODS
All conservation works are implemented directly by master craftsmen employed by the project.

NEW TECHNOLOGIES INTRODUCED
Use of 3D high-definition laser scanning technology to document all monuments prior to conservation works, and a training workshop to introduce this technology was also held in India.

Partners

PUBLIC PARTNERS
Archaeological Survey of India.

Donors

Sir Dorabji Tata Trust, World Monuments Fund.

Authoritative Framework

'Memorandum of Understanding' signed on 11 July 2007.

Opposite page:
Pointing work is being done on the dome of Humayun's Tomb during the final stages of its repair and restoration.