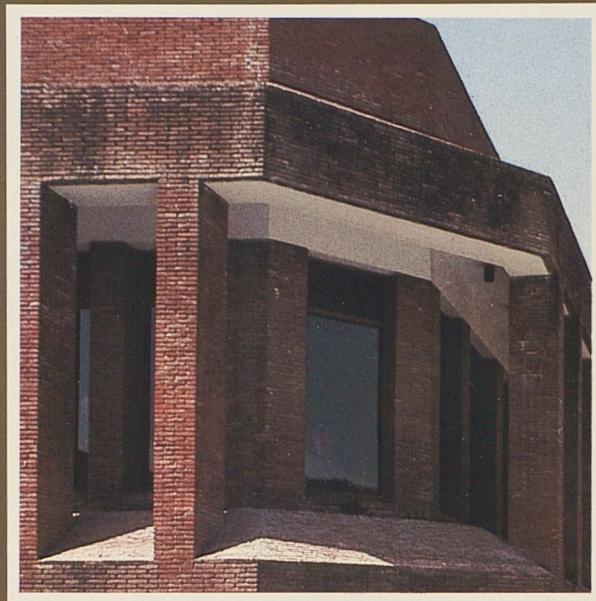


MUGHAL SHERATON HOTEL  
AGRA, INDIA  
COMPLETED OCTOBER, 1976







Northwest corner of hotel complex. Openings in the west wall are recessed for protection from the long afternoon sun.

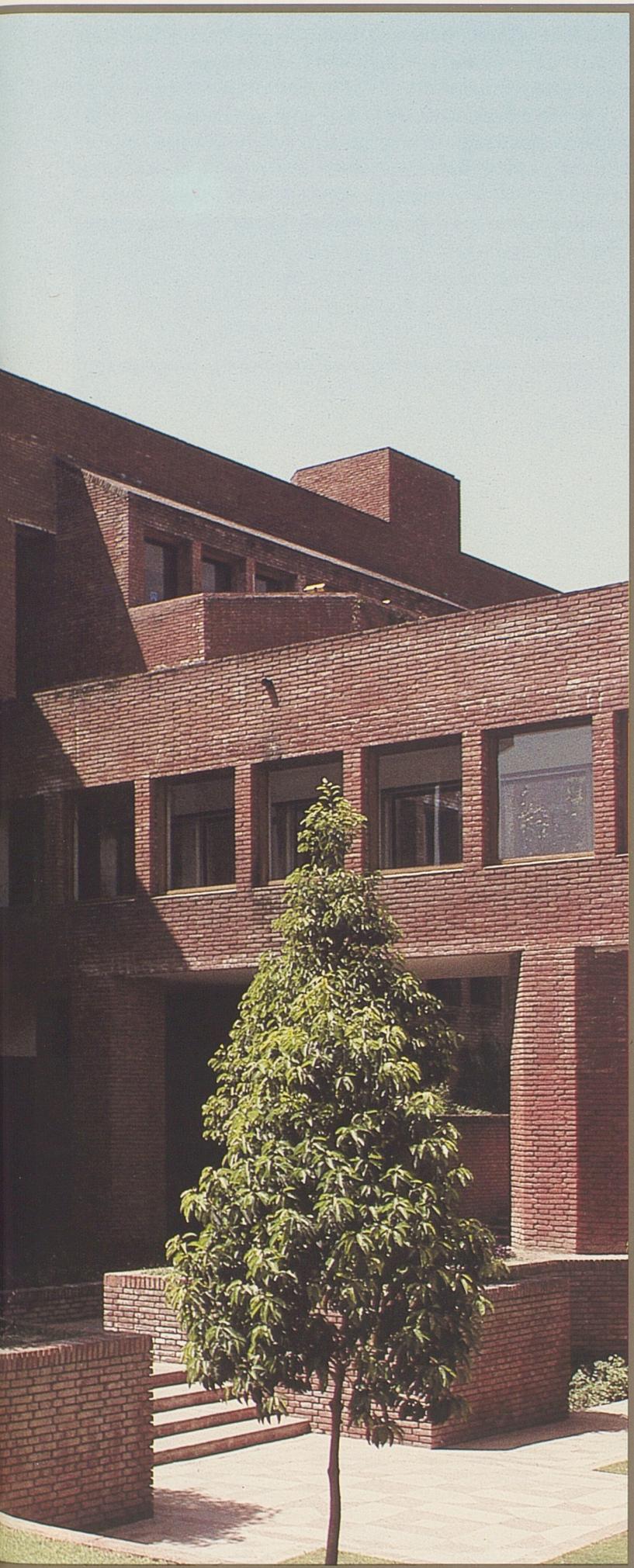




Cypresses, fruit trees, lantern niches  
and waterfalls recall a Mughal garden.



Planters at the base of the walls are a screen for the rooms and a transition to the landscape.



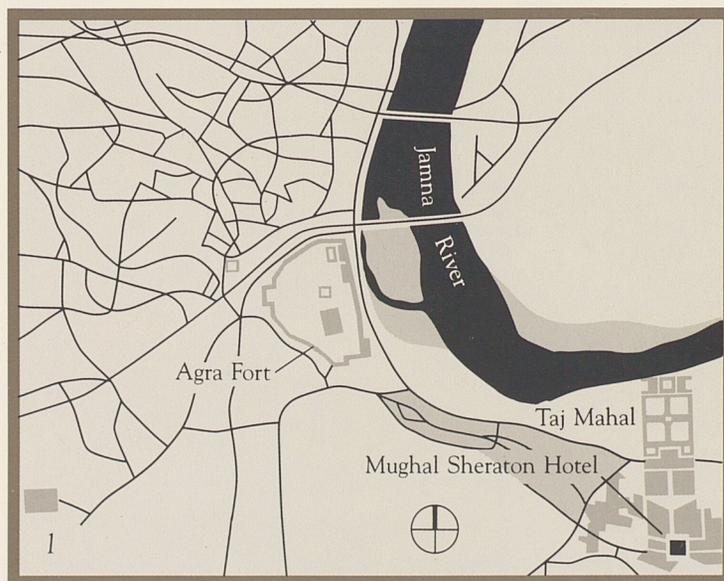
MUGHAL SHERATON HOTEL. Client: Indian Tobacco Company, Ltd., A. N. Haksar, Chairman; Architect: Arcop Design Group, Ramesh Khosla, Ranjit Sabikhi, Ajoy Choudhury; Anil Verma and Associates; Ray Affleck; Landscape Architect: Ravindra Bhan.<sup>1</sup>

There is a growing consensus within Third World countries that hotel prototypes used during the past few decades must be reexamined. In design, construction, and maintenance, many new tourist facilities require vast resources and are dependent upon imported materials and technologies, which drain the very foreign-exchange holdings the facilities are intended to generate. Often far removed from the spirit of their sites, these facilities fail to embody the cultures they are intended to introduce. A new sensibility calls for design that is grounded in the economy and culture of a region. The Mughal Sheraton Hotel exemplifies that sensibility.

*Mughal Agra.* Agra today is a commercial centre, the site of a university, and a major transportation interchange. Yet to many Agra remains Mughal. For it is Mughal Agra that draws thousands of visitors to the city each year.

Mughal Agra dates from the mid-sixteenth century when the Emperor Akbar built his stone fort on the Yamuna River. This served as his imperial palace until 1569 when he moved his court to the new capital of Fatehpur Sikri, twenty-three kilometres to the southwest. There he had a huge palace complex built of red sandstone, with pavilions, terraced courts, and gardens. Twenty years later the city was abandoned when the water supply proved inadequate; it was never again inhabited. Agra remained an important centre and that most famous of Mughal monuments, the Taj Mahal, was built in the mid-seventeenth century by Akbar's grandson, Emperor Shah Jahan. The gleaming white marble mausoleum, framed by red sandstone pavilions and approached through a formal garden past a long reflecting pool, is thought by many to represent the culmination of Mughal architecture and landscape design.

1. *Agra and environs showing relationship of the Mughal Hotel to the Taj Mahal.*



The site of the Mughal Hotel is less than a mile to the south of the revered Taj, separated from it by agricultural fields and the small village of Tanj Ganj. While the Taj Mahal can be seen from several points in the hotel, the primary focus of the complex is inward to the garden courts, traditionally the places of activity. (This was also the organisation of the sandstone city of Fatehpur Sikri, which the architect cites as being a model for the Mughal Hotel.) Visitors to the hotel, eighty-five percent of whom are foreign, are provided with a place of rest, refreshment, and recreation in a Mughal setting of the twentieth century.

*A Contemporary Pleasure Garden.* The hotel complex is organised into blocks, separated according to function. A central block houses all the public spaces and the administration. Services are grouped in an adjacent block to the west, directly accessible to the service yard. The 200 guest rooms are arranged in two-storey quadrangles which define three garden courts. The guest wings are connected to each other and to the central block by enclosed pedestrian bridges which span the gardens.

The hotel is pulled back from the road, and upon entering the drive one feels at once a sense of lush sanctuary. Thickly planted banks line the approach to the complex. From the entrance canopy, the visitor is led, by bridge, across a large reflecting pool, past fountains, and on to the lobby beyond.

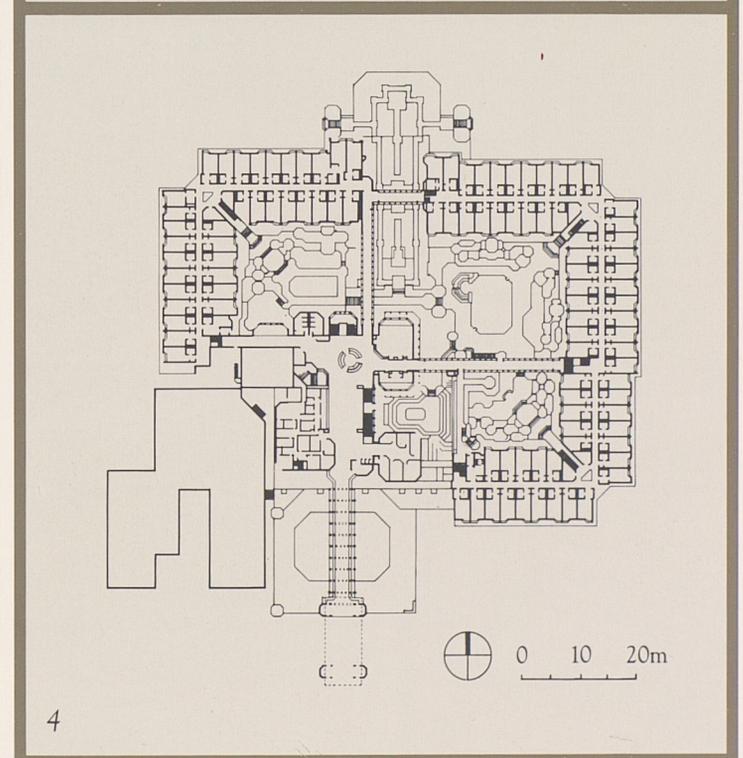
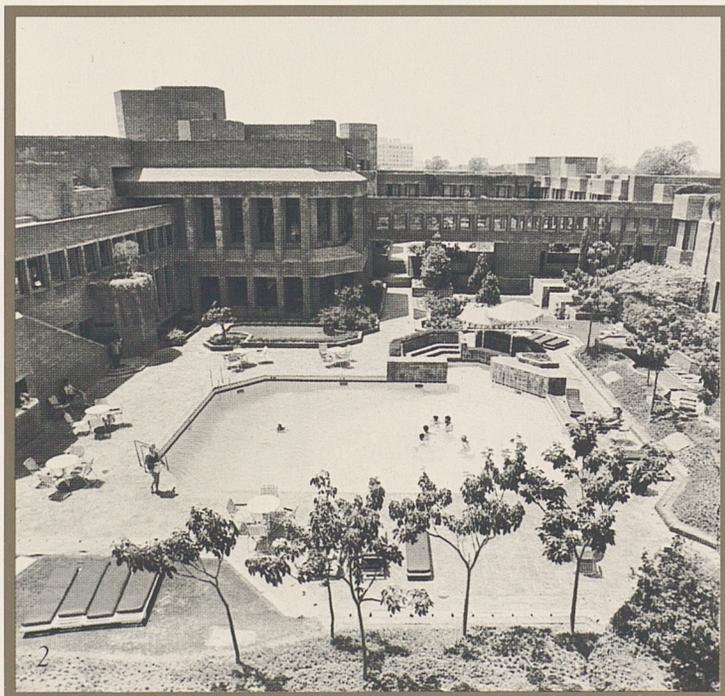
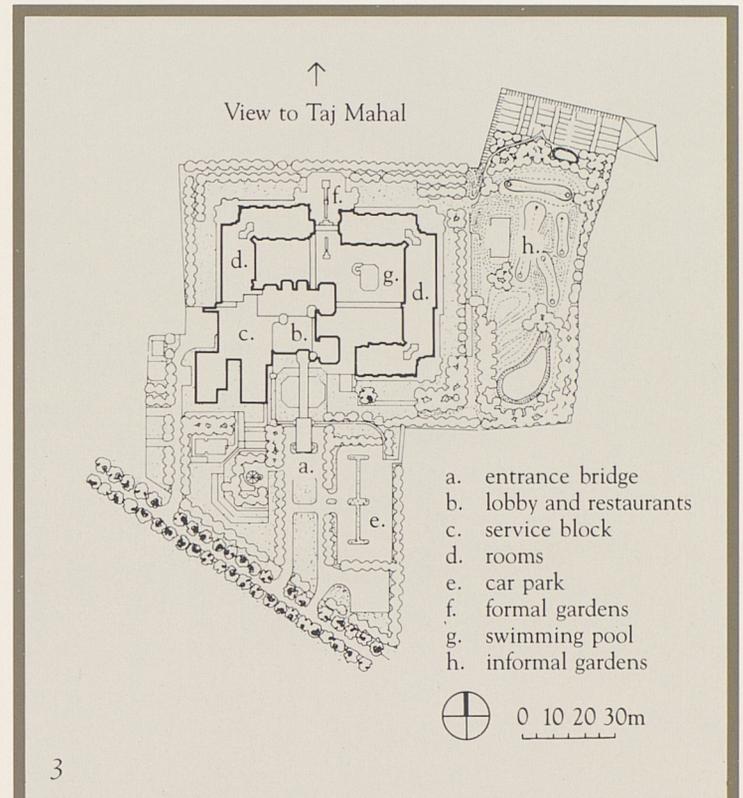
2. *Interior court.* The primary focus of the complex is inward to the garden courts. From the room level the courtyard gradually steps down, through a series of terraces, planters, pools, and fountains, to a level twelve feet below grade. Here, pools are used extensively, the largest designed as a swimming pool. A network of walkways weaves among the planters and pools, forming small terraces and seating areas, and linking various courts.

3. *Site plan of gardens with roof plan of building.*

4. *First-floor plan.* Throughout the interiors, exclusive use is made of local fabrics, regional carpets, and traditional crafts, emphasising the Indian character of the hotel.

The massing is low, fortress-like, and modest from the exterior, as was characteristic of Indian serais (travellers' rest houses). Once inside, it is light and cool, with rooms opening onto the garden courts.

Off the large lobby are a shopping arcade and an open lounge overlooking a formal garden. At the mezzanine level are a tea room and an observation area offering views of the Taj Mahal. The four restaurants,<sup>2</sup> each with its own distinctive character, are at the garden level, as are conference rooms and a ballroom, where activities can spill out onto the garden terraces. Three enclosed pedestrian bridges lead the visitor from the lobby area to the guest wings, always with a view of the gardens below.



The gardens are the places of greatest activity, in much the same manner as were the garden courts at Fatehpur Sikri. The three landscaped courtyards are enclosed by the guest wings. The walls of these wings form wide planters at their bases, providing a privacy screen for the rooms and a transition from building to landscape. From the room level the courtyards gradually step down, through a series of terraces, planters, pools, and fountains, to a level 3.65 metres below

grade. The cooling presence of large water tanks, well understood by the Mughals, has been introduced here also. Pools are used extensively with tanks of varying size, the largest designed as a swimming pool. A network of walkways weaves among the planters and pools, forming small terraces and seating areas, and linking the various courts.

In the centre, on an axis with the Taj Mahal, is a formal garden similar to the gardens of the Mughal period. Cyprus trees line the terraced water tank, which is enclosed at the far end by a sandstone wall carved with lantern niches, characteristic of Mughal design. The water spills over low walls, also with lantern niches, into small pools and fountains.

Surrounding the guest wings are two hectares of informal gardens which offer further recreation, including putting greens and archery and croquet facilities. The entire site is bounded, not by a wall, but by thick bougainvillaea.<sup>3</sup>

*Response to Climate.* Agra is hot, with temperatures in mid-summer typically reaching 40° C. Although the temperature moderates in winter, the season of heaviest tourism, it is still warm and dry. Even in winter months temperatures are known to reach 36° C.

The Mughal Hotel serves as a cool haven from the hot, dusty Agra plain. All the rooms are oriented to take advantage of the cooling effects of the gardens and pools. The thick masonry walls of the guest wings aid in cooling, and window

5. Reception lobby. Agra is noted for its marble and has a continuing tradition of workers skilled in its cutting. White marble is used extensively as a finish; in the floor of the lobby area it is set in distinctive circular patterns. The large chandelier was brought from Firozabad, 30 kilometres from Agra.

6. Restaurant interior. The four restaurants, each with its own distinctive character, are at the garden level, as are conference rooms and a ballroom.

7. Interior of a guest room. Both the guest rooms and restaurants have brightly panelled walls and wood furnishings from Rajasthan and other regions. Many of the guest rooms have canopies above the beds. Some include a typically Indian low sitting and resting platform (taq) in the bay window.



openings are limited to thirty percent of the wall area to minimise the heat gain. Openings to the east (subject to rapid increase in temperature in the mornings) and those to the west (exposed to the long afternoon sun) are recessed for further protection. Trees and thick planting around the entire building perimeter also help to screen the sun's rays.

In the central block of public spaces there are large areas of glass to take advantage of the views. However, these openings are only in the north and east facades. They are sheltered from the direct sun by a double-wall system consisting of a masonry screen wall wrapped around the primary concrete frame structure.

All the public areas and guest rooms are centrally air-conditioned. The mechanical distribution system consists of a network of underground service tunnels which loop around the complex, paralleling the circulation routes. Services are also grouped in shafts which form vertical massing elements. This separation of services facilitates access and simplifies maintenance. An on-site auxiliary diesel generating plant assures the continued functioning of the mechanical system should the municipal electricity supply fail.

*Structure and Construction.* The hotel was designed to avoid all unnecessary dependence upon foreign technology, basing the structures and construction technology on the materials and skills readily available in the region at the time of construction. This meant the use of reinforced concrete and, above all, brick, a material used in the region for centuries.

All the guest wings are made of brick bearing walls, 34.3 centimetres thick on average, supporting concrete slabs. The

8. *North/south and east/west sections.*

9. *Detail of formal garden. The terraced water tank is enclosed at the far end by a sandstone wall carved with lantern niches.*

10. *Formal gardens. On axis with the Taj Mahal, this garden is similar to those of the Mughal period.*

11. *The Mughal Hotel with the Taj Mahal beyond.*

central block of public spaces, the pedestrian bridges, and the service block, all of which require longer spans, are concrete frame structures with concrete waffle slabs. There brick has been used as infill and as facing on the concrete.

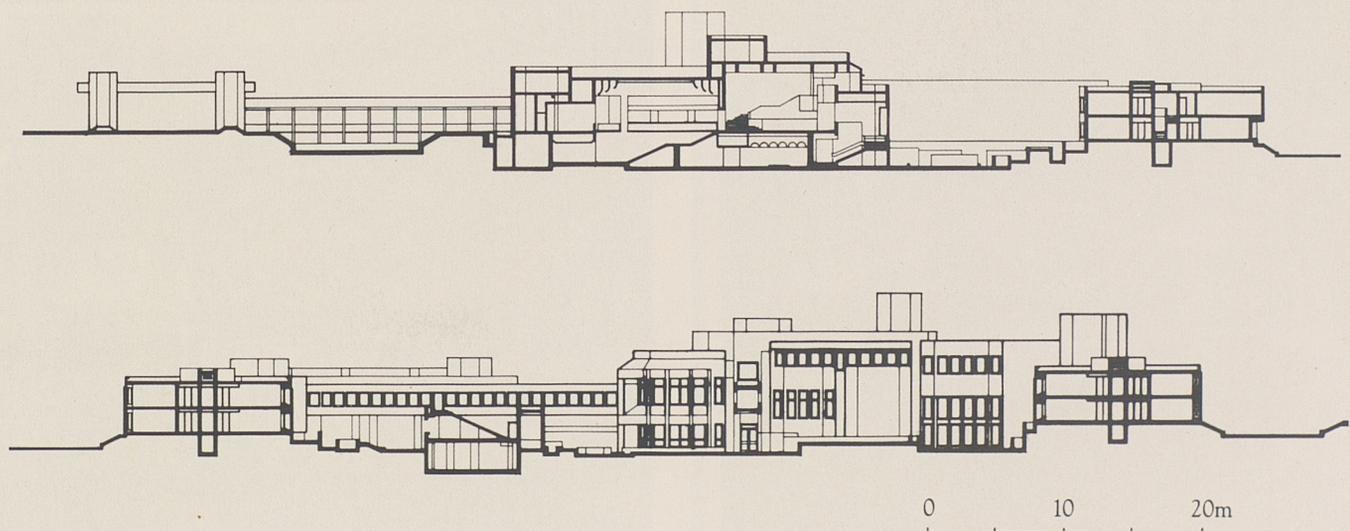
The construction documents were completed in May of 1975, but the start of construction was delayed until September, at the end of the rainy season.<sup>4</sup> The construction process was labour intensive, drawing on the ample available labour force. The only machinery used on site was a small hand-fed concrete mixer. All other work, including the installation of large air-handling units, was done manually. In addition, donkeys were used for heavy hauling. At its peak, there were about 2000 men, mostly from the surrounding villages, working in three shifts on the site.

During the fifteen months of construction the site was transformed into a construction camp, with most work done on the site. A plant nursery was established on the property to produce the landscape materials and a workshop set up for the manufacture of wood furnishings and finishes and for fabrication of metal ductwork. To manage this vast project, the client established an in-house construction management team to purchase materials and coordinate the subcontractors. The work was closely supervised on site by two representatives of the architects.

To ensure that the designers' intentions were realised, before beginning construction each detail was drawn on the mud floors, mocked up, and modified if needed. This included the preliminary construction of a complete guest room module. In this way workers and craftsmen were able to suggest improvements in technique and detailing.

Construction was completed in October of 1976 and the Mughal Sheraton opened in November. It is now maintained by a staff of 400 employees.

*Materials and Finishes.* All materials for construction were obtained locally, or at least from within a truck haul distance from Agra. Bricks were supplied by local kilns, which were



able to increase their production from 1.5 million to the three million required for the project. Cement was brought from Delhi, 200 kilometres to the north. Local stone, crushed manually on site, constituted the aggregate, and sand came from the local river bed and was washed on site. The steel for reinforcing, obtained in Delhi, was manufactured outside of Calcutta; it was rolled and cut on site.

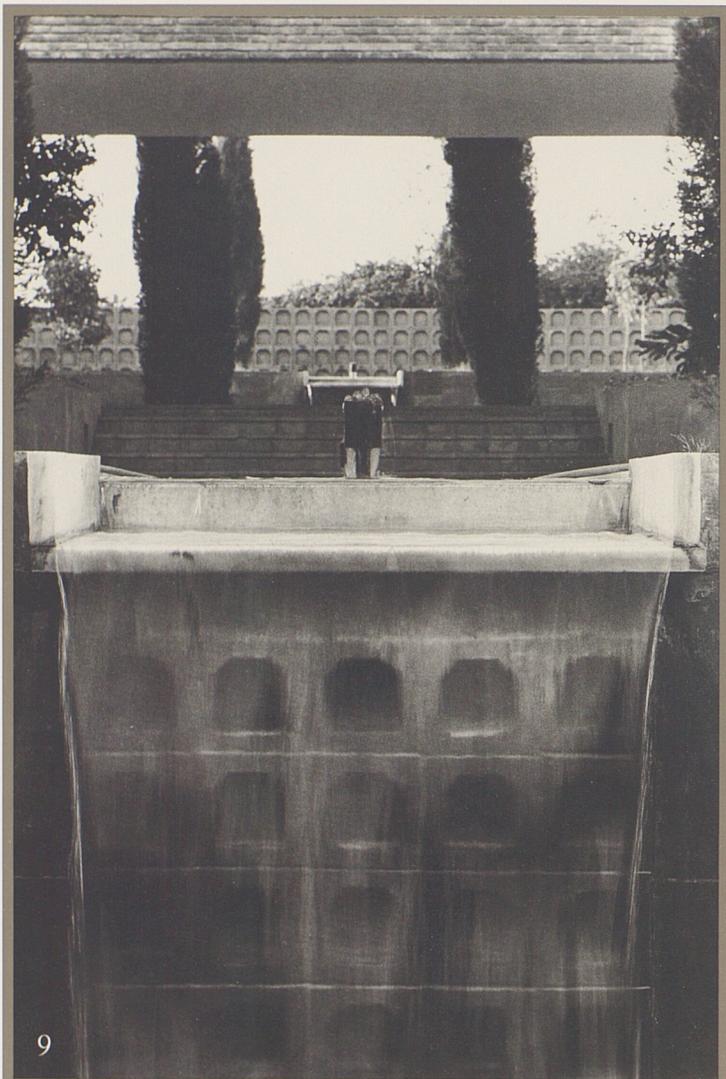
Agra is noted for its marble and has a continuing tradition of workers skilled in its cutting. White marble, finely cut and polished, was used extensively as finishing in the pedestrian bridges and the lobby areas where it is set in distinctive circular patterns. The marble came from a quarry in Makrana, 110 kilometres from Agra, the source of the marble used for the

Taj Mahal. Other craftsmen skilled in cabinetry and wood-working fabricated the teak doors, window frames, and some of the furniture, working on site in a special workshop. The decorative plaster ceilings hung in the restaurants were also manufactured in the workshop by local skilled craftsmen.

Throughout, much use is made of local fabrics, regional carpets, and traditional crafts, emphasising the Indian character of the hotel. The large chandelier which hangs in the lobby was brought from Firozabad, thirty kilometres from Agra. The restaurants and guest rooms have brightly panelled walls and wood furnishings from Rajasthan and other regions. Many of the guest rooms have fabric canopies above the beds, and some include typically Indian low sitting and resting platforms (*taq*) in the bay windows. Eighty of the rooms are in Indian style with exposed floors and raised platforms with mattresses in place of the standard movable beds.

In the gardens, paving is of brick and slate. The formal garden is set with sandstone tiles in geometric patterns. Structural ceramic tiles were used for the planters, curbing, and pools. All of these materials were acquired locally.

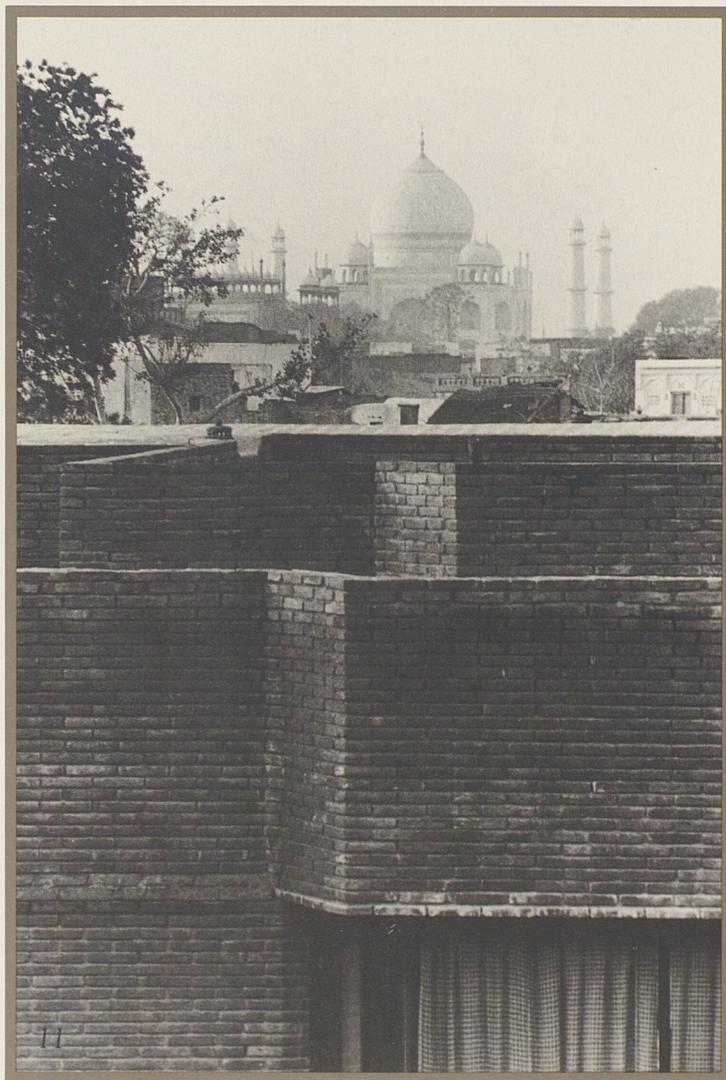
Continually drawn into the gardens while moving from pavilion to pavilion, visitors to the hotel are offered recreation as well as rest, in surroundings which evoke and develop the spirit of Mughal design. In both building layout and landscape design, in the choice of materials and furnishings, and in construction technology, the hotel complex is rooted in the culture of the region.



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