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DESIGN TODAY

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IN FOCUS

Designs In Stone

HOUSES IN RAJASTHAN, NEW ZEALAND & GREECE

BIODIVERSITY PARK, HYDERABAD

USE OF STONE IN LANDSCAPING

AMBIKA PILLAI'S FLAGSHIP SALON IN DELHI

ARCHITECT'S HOUSE IN GURGAON

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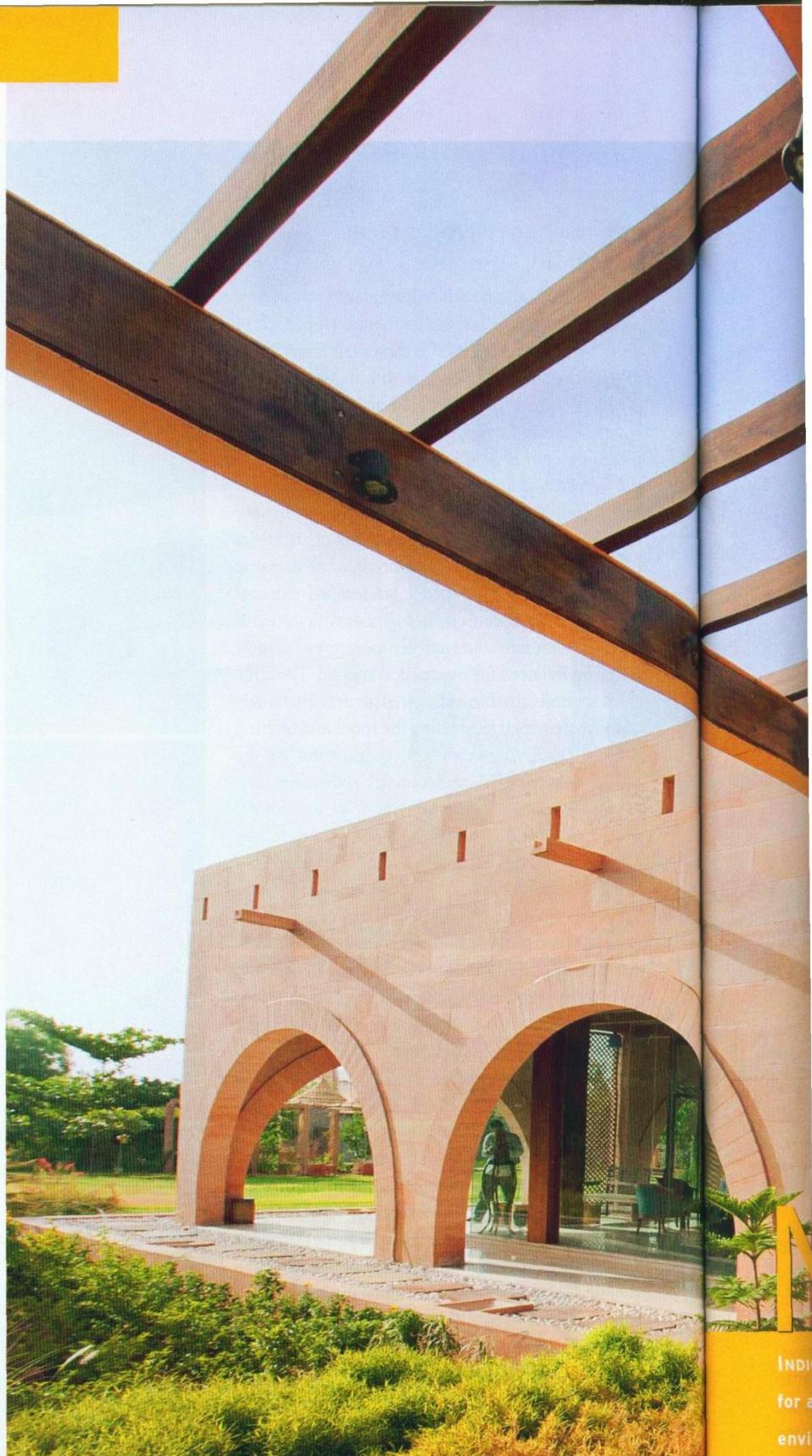


Architects Manish Banker and Shailesh Untawale were initially reluctant when their clients approached them to build a home in a residential area on the outskirts of Jodhpur. The remoteness of the site from their Pune-based office was a concern, but that changed when on the client's insistence, they first visited the site. Finding immediate resonance with the 'special air' of the city, rich in its artistic and architectural heritage, the architects decided to undertake the project for their clients—an industrialist and his wife, on the verge of retiring from their primary careers and looking to settle away from the commotion of the city.

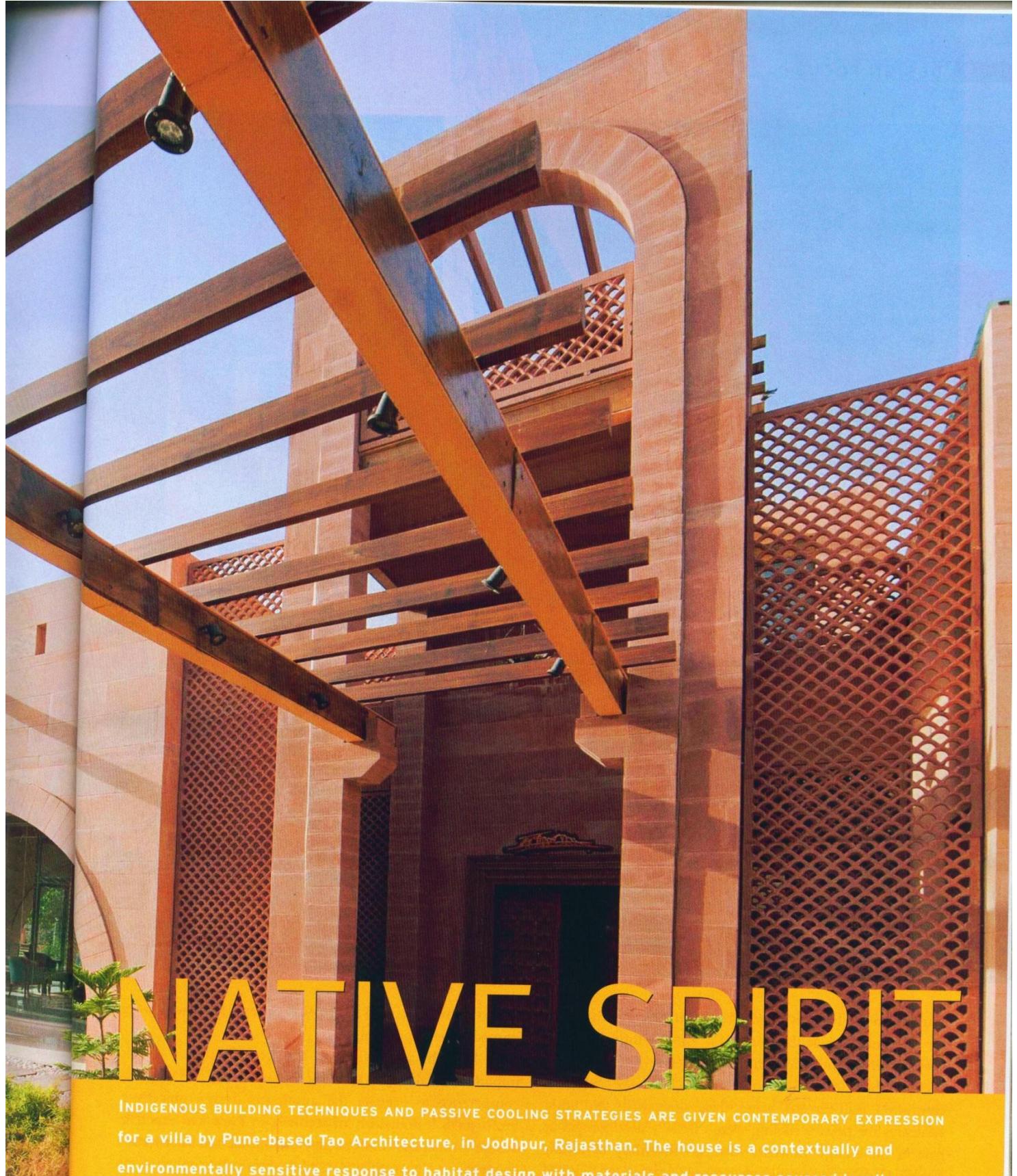
Desiring to live in the midst of natural surroundings, the couple had purchased a two-acre site with scenic views of hills to the north and west, within which they wanted to build their home and a small office. Apart from the functional requirements of having four bedrooms—to accommodate the many visiting friends and relatives—and the other regular necessities of living, dining and cooking spaces, the design brief to the architects was also to create an introspective environment from which to view and contemplate nature.

A fruit orchard existed when the site was purchased, which was preserved in the design, apart from the several gardens that were added. Finding a solution to tackle the extremes of the desert climate with relentlessly high summer temperatures with as little mechanical cooling as possible became the primary focus of the design approach. The architects, together with the owners, embarked upon an educational journey exploring the city and its architectural heritage to understand in great depth traditional responses to climate-sensitive design.

Initially averse to utilising local stone as a building material and preferring a more contemporary statement for their home, the

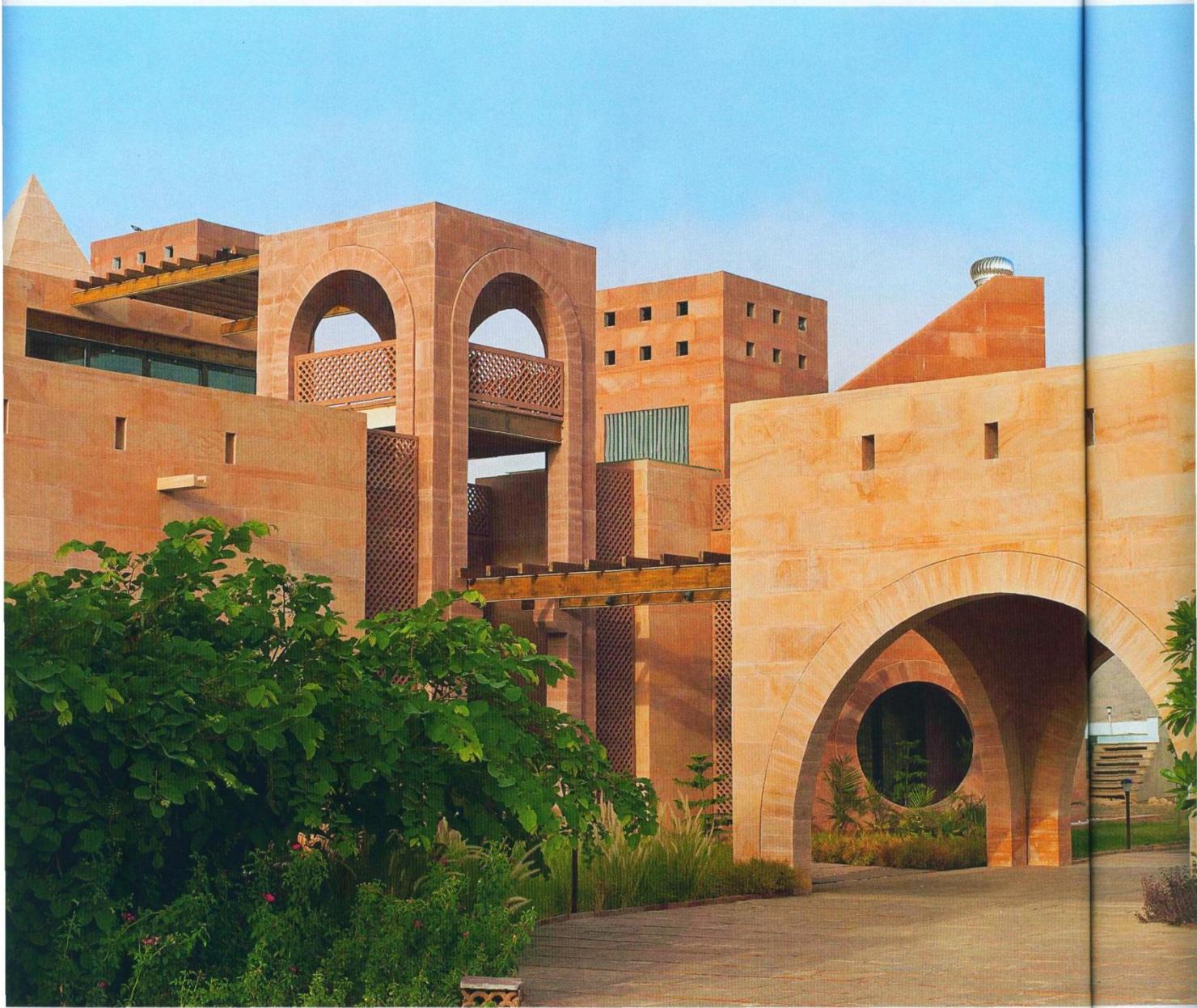


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NATIVE SPIRIT

INDIGENOUS BUILDING TECHNIQUES AND PASSIVE COOLING STRATEGIES ARE GIVEN CONTEMPORARY EXPRESSION
for a villa by Pune-based Tao Architecture, in Jodhpur, Rajasthan. The house is a contextually and
environmentally sensitive response to habitat design with materials and resources sourced locally



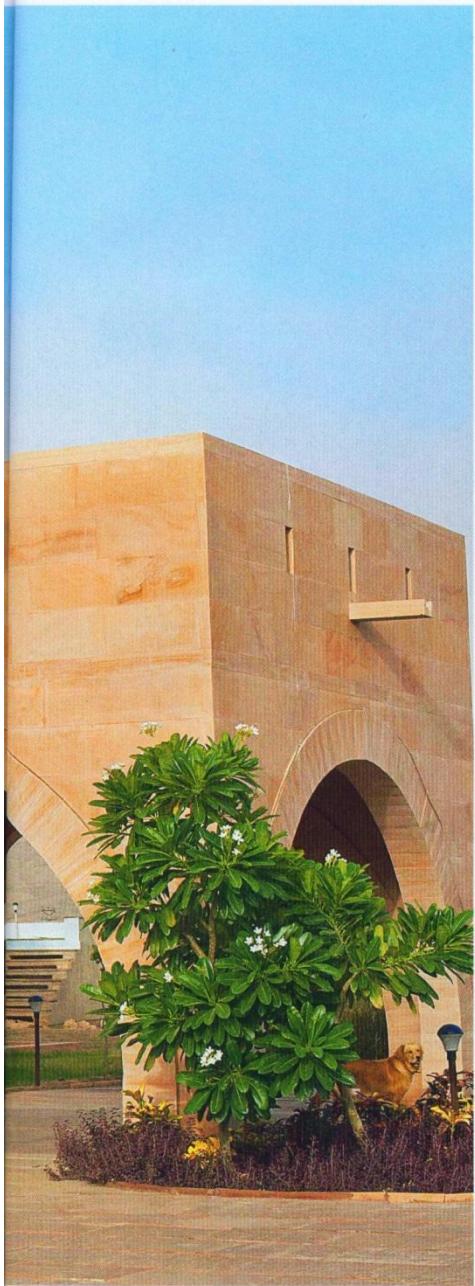
couple were gradually persuaded by the architects' enthusiasm for adopting vernacular materials and methods—always keeping in mind modern living needs and aesthetic preferences. Time-tested methods such as the usage of courtyards, jaali screens, water, thick stone walls and other strategies for passive cooling were carefully documented as part of the design process. Also, an inventory of locally available resources including artisans, craftsmen, skilled labour and materials was made so that in the final design,

almost all material and labour was sourced from within the immediate environment.

Manish acknowledges the contributions of two important collaborators who had the experience and technical competence to execute the ambitious design objectives. Professor S L Kolhatkar, an architect in Pune and expert in design for thermal comfort, provided specialised information about the engineering aspects of downdraught cooling—one of the primary strategies used in the scheme for moderating

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Cooling towers are part of the visual aesthetic of the house's form which also features a machaan to enjoy views of nature

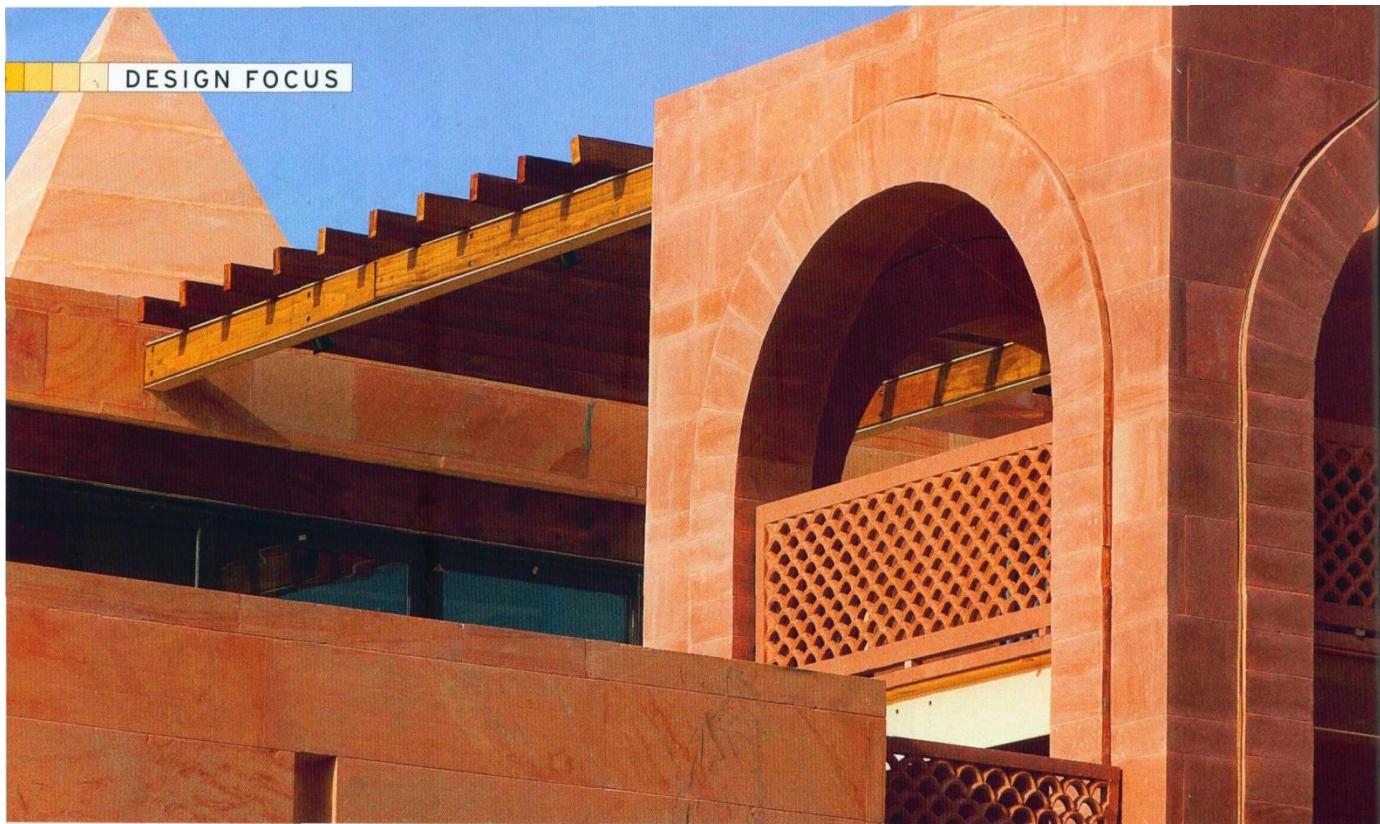
indoor temperatures. Architect Nimish Patel, who is well known for his efforts in preserving indigenous building techniques and developing sustainable habitats, shared his considerable knowledge and encouraged the architects to

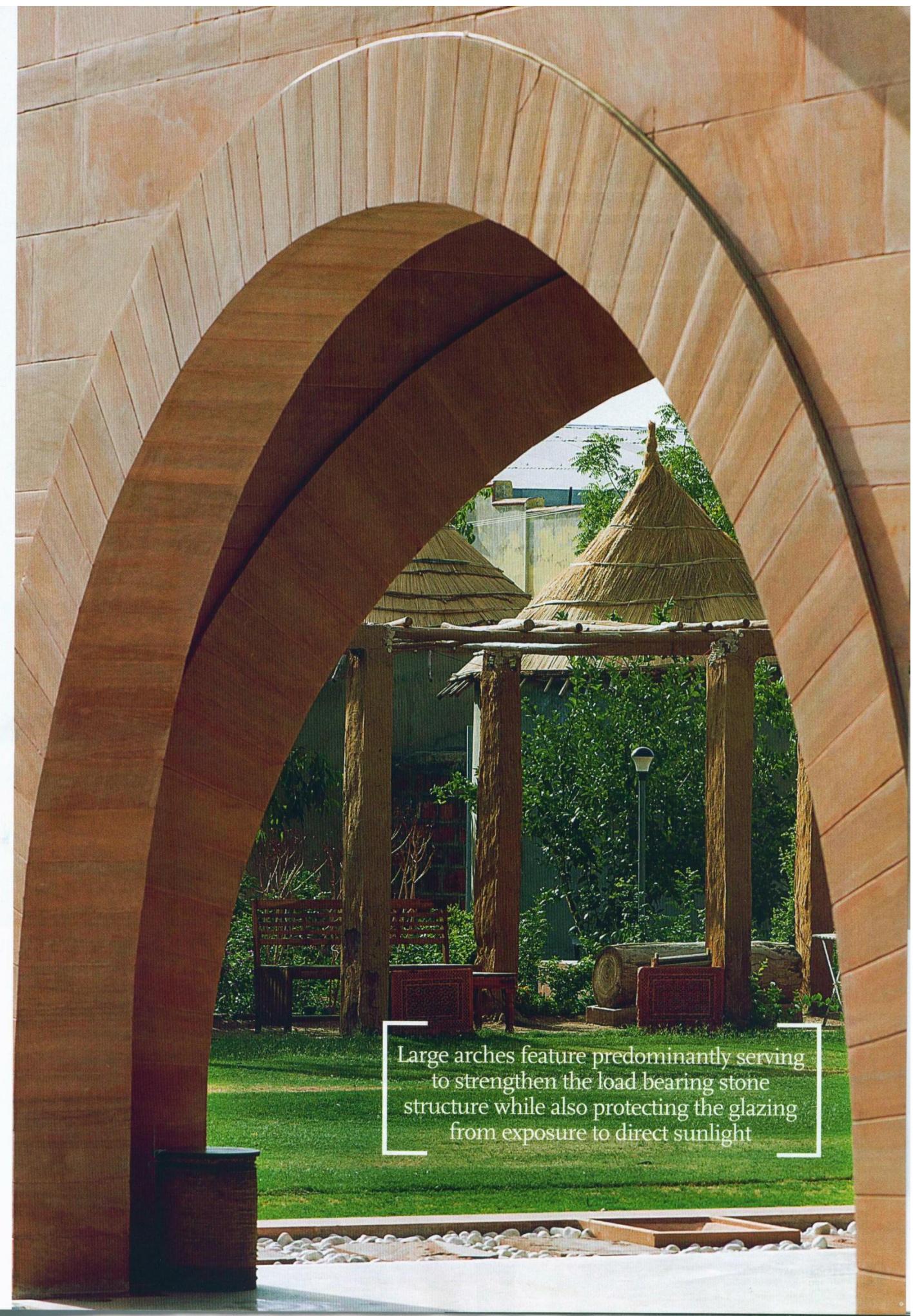
Rain water is harvested by means of channels abutting the residence from where it flows down to a large underground tank. Throughout, the architects deftly interlace functional structures with the building's formal expression

persist with the design vision of being ecologically and contextually sensitive.

The layout that evolved features two courtyards with water bodies around which the main living areas—with many informal common areas—are organised to benefit from the evaporative cooling effect. A major design effort was in blocking direct light from entering the interior spaces to prevent heat gain during the day. However, all areas are still naturally lit with the diffused light from the courtyards, the deeply recessed windows or

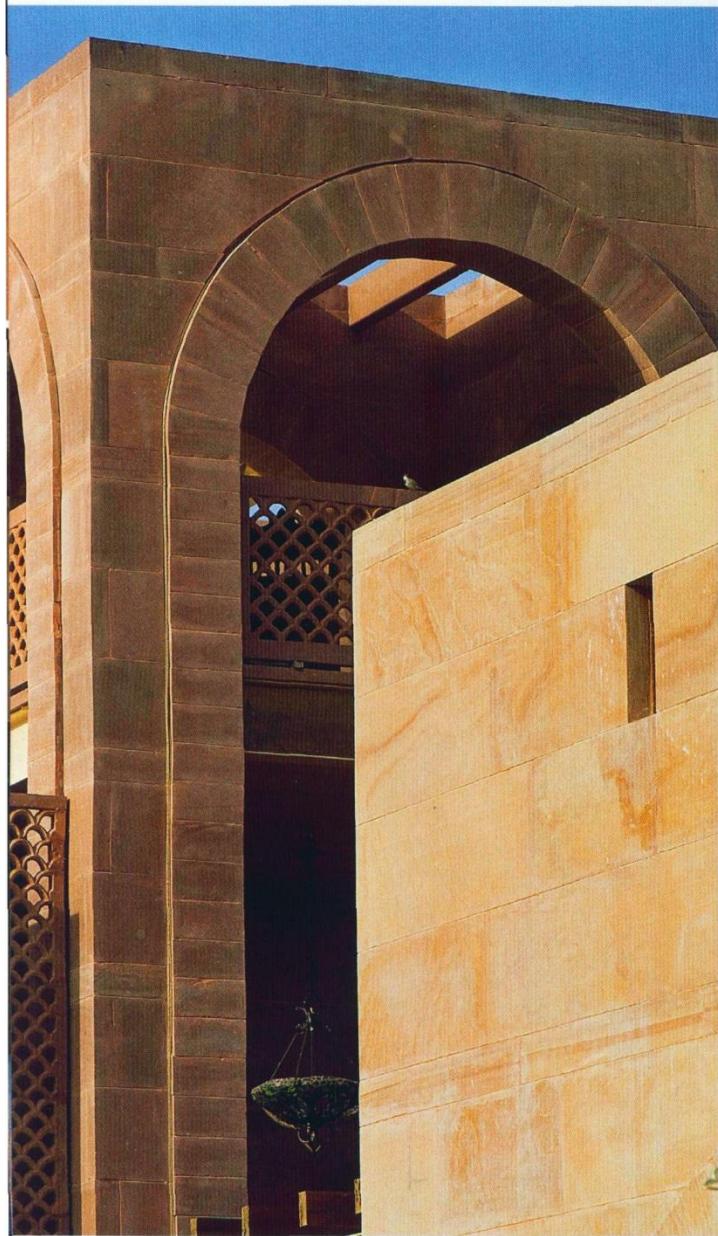
DESIGN FOCUS





Large arches feature predominantly serving to strengthen the load bearing stone structure while also protecting the glazing from exposure to direct sunlight

Jaali screens, deep verandas and protective arches soften the light before it enters the interior spaces. Large openings with glazing on the east and north sides where the light is milder, open the house to the surrounding greens and are deeply recessed to prevent heat gain



filtered light coming through the jaali screens.

The facade takes on a fortified appearance as a consequence of this constraint. The south block of the house is raised high to cut down the solar gain, thus shading the north side terrace from which to enjoy views of nature. To open the house to the gardens outside, large glazed openings are provided on the north and east sides where the light is milder. These are however set back from the external façade by deep verandas protected by large arches—featuring prominently in the visual expression of the house—to prevent direct exposure to heat. The passive downdraught cooling



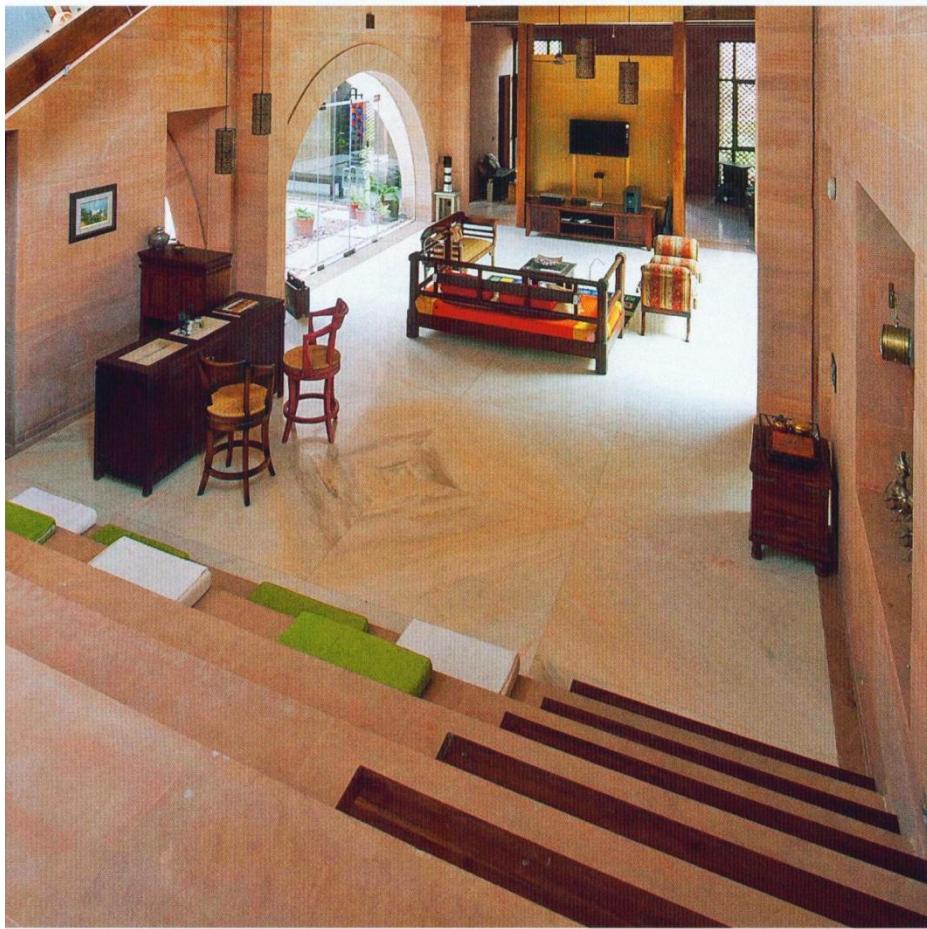
system with its three cooling towers and six stack towers also add to the building's formal composition.

Hot air cooled by mist, descends by gravity through the cooling towers into the interior spaces. The warm air rises up through the stack towers placed at the periphery, from where it is exhausted outside. This continuous circulation of fresh, cool air ventilates the house. Inverted earthen pots in the ceiling add a layer of insulation further aiding the cooling process. Manish remarks about the success of the design, describing how the owners almost never have to turn on the air conditioners—fitted only in the formal living and dining

Generous verandas animated by the play of light and shadow through the stone jaalis serve as a buffer to filter in light

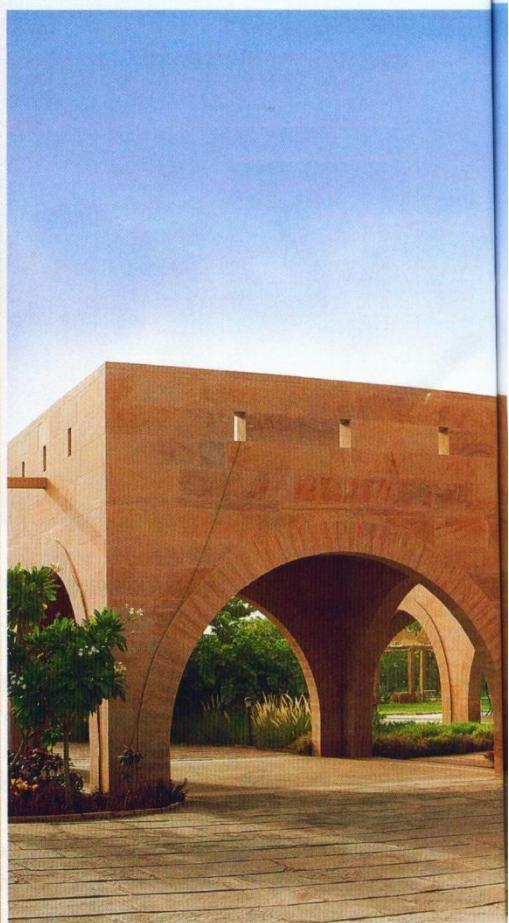
rooms—except during the peak of summer when they need it for only about an hour in the day.

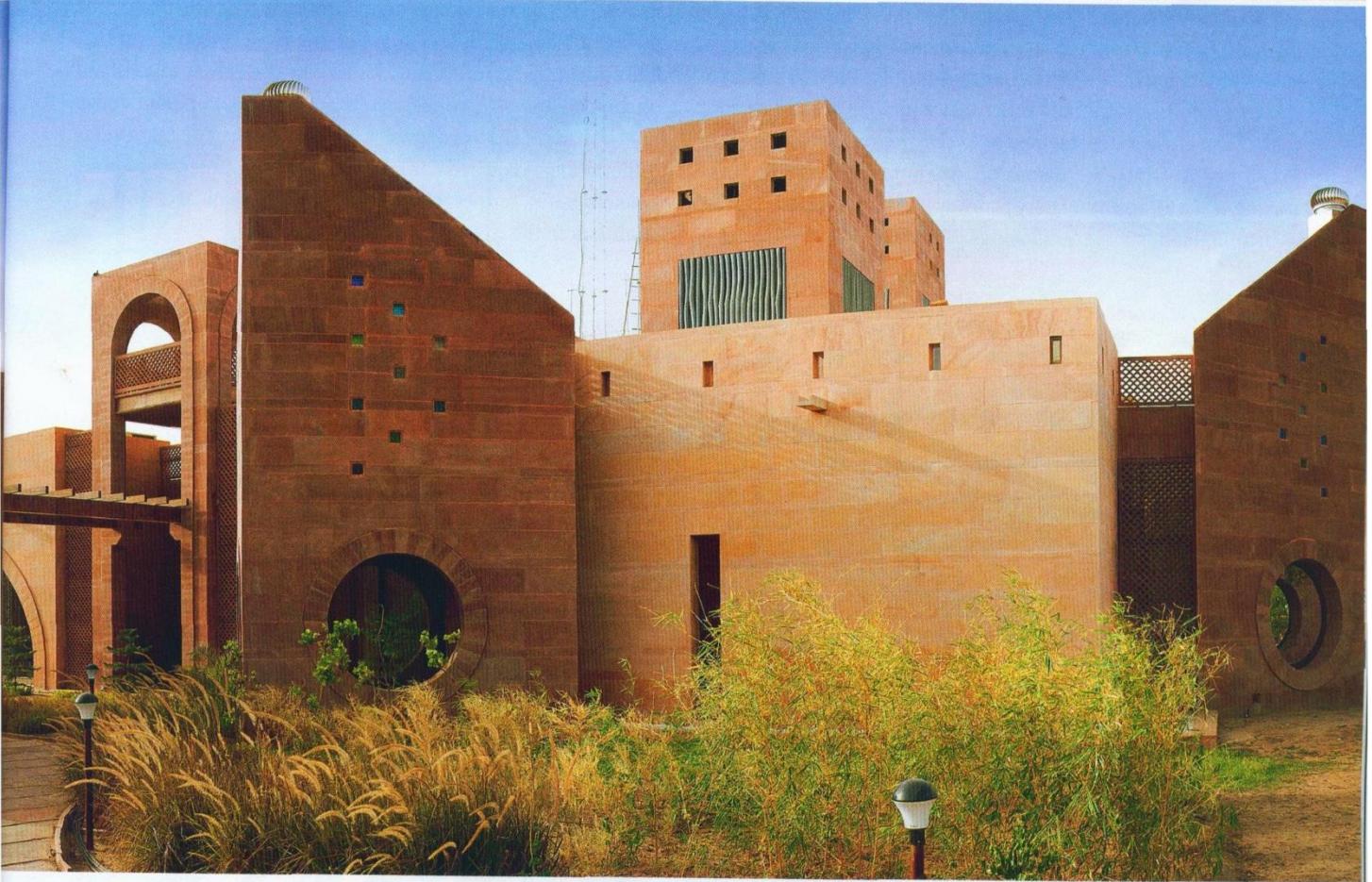
Built almost entirely from red and peach sandstone local to the area, the house does not use any concrete in its construction except for the foundation, using instead the more environmentally responsible option of lime mortar and stucco plaster. The



Rising steps formulates a kind of amphitheatre to extend the family room into an occasional music or theatre setting. Jaipur cotton textiles soothes the bedroom spaces with their soft and colourful presence

flooring is a combination of locally procured Sheesham wood and white and peach coloured Makrana marble slabs. Red granite features in the kitchen countertops and utility areas. Doors are made from teak and the coloured glass panels are sourced from nearby. For the furniture, furnishings and other interior artefacts, skilled craftsmen from the region were employed. Filled with natural light, ventilated cooled air and the feeling of being in constant communion with nature, the house is a continuous source of delight for its contented owners.





Photographs: SAFAT ALI; Courtesy: TAO ARCHITECTURE; Text: GEETH GOPINATH